2025 LED Retrofit & Lighting – Updated 08-01-2025
INVITATION TO BID

Mount Prospect Public Library
10 S. Emerson Street
Mount Prospect, IL 60056

BIDS ARE DUE AUGUST 14, 2025

Notice is hereby given by the Board of Library Trustees of the Mount Prospect Public Library, Mount Prospect, Illinois (the "library") that sealed bids will be received at 10 South Emerson Street, Mount Prospect, IL until 1:00 p.m., Thursday, August 14, 2025, for the 2025 LED Retrofit & Lighting (the Project).

Bids will be opened publicly and read aloud at the Mount Prospect Public Library, 10 S. Emerson, Mount Prospect, IL 60056 at 1:15 p.m., Thursday, August 14, 2025.

The terms and conditions of the Project are described in the Terms of Project. The Terms of Project are available at: https://mppl.org/about-us/transparency/

Terms of Project 2025 LED Retrofit & Lighting

BIDS ARE DUE AUGUST 14, 2025

Sealed bids for 2025 LED Retrofit & Lighting will be received by the Mount Prospect Public Library, 10 South Emerson Street, Mount Prospect, Illinois 60056 (the "library") until 1:00 p.m. local time on Thursday, August 14, 2025.

Bids will be opened publicly and read aloud in Meeting Room C at the Mount Prospect Public Library at 1:15 p.m. (local time) on Thursday, August 14, 2025. Bids submitted late will be returned unopened. No oral, faxed, emailed, or telephoned proposals or modifications will be considered.

The terms and conditions of the project are as follows:

A. Scope of Project

The 2025 LED Retrofit & Lighting project located at the library consists of retrofitting and/or replacing existing lighting with energy efficient LED upgrades. This project encompasses lighting products that are eligible for the ComEd Energy Efficiency incentive program, as well as some lighting products that are not eligible.

The selected contractor will be responsible for managing the entire ComEd Energy Efficiency incentive process, including application preparation, submission, and coordination of all required documentation to ensure the project qualifies for and receives all eligible rebates.

B. Inspecting the Property

Parties submitting a bid must attend the mandatory Pre-Bid meeting on Wednesday, July 30, at 1:00 p.m.

C. Preparation and Submission of Bids

1. ADDED AS PART OF ADDENDUM #1 ON 08-01-2025: All bid amounts must be inclusive of applicable ComEd incentives. Vendors are required to apply any eligible ComEd energy efficiency incentives to their pricing, and the final bid submitted shall reflect the net cost to the Owner after such incentives have been applied.

2. All bids shall be placed in a sealed, opaque envelope addressed and delivered to: Jo Broszczak, Mount Prospect Public Library, 10 South Emerson Street, Mount Prospect, Illinois 60056.

3. The envelope shall bear the name of the individual firm or corporation submitting the bid and the following: “2025 LED Retrofit & Lighting”.

4. Bids received after 1:00 p.m., Thursday, August 14 will not be considered.

5. A written request for withdrawal of a bid will be granted if the request is received by the library prior to the time of bid opening.

6. Bids shall be signed by bidder. If the bidder is a corporation, the President and Secretary shall execute the Bid Form and the corporate seal shall be affixed to the Bid Form.

7. All bids shall be binding for 90 (ninety) calendar days following the date of opening.

8. Bidders shall notify the library immediately of any errors or omissions in the Terms of Project.

9. A Bid Bond (or Cashiers/Certified Check payable to the library) in the amount of ten percent (10%) of the Bid amount is required.

10. Parties submitting a bid must attend the mandatory Pre-Bid meeting on Wednesday, July 30 at 1:00 p.m. (local time)

11. Bidders must:
    a. Be licensed in the State of Illinois;
    b. Be in compliance with all statutes and regulations applicable to bidder's business operations;
    c. Subcontractor shall have 5 years' experience designing and installing similar systems;
    d. Provide three customer references of similar projects, including name and location of installation and owner's representative phone number and email address.

12. Bidders acknowledge on the Bid Form receipt and review of all Addenda.

13. Bids must be submitted on the Bid Form (Exhibit B) with all information specified in the Bid Form.

14. If a prospective bidder is in doubt as to the meaning of any part of the Project, they shall submit to Patrick Brickley, Facilities & Security Manager, pbrickley@mppl.org a written request for an interpretation or correction. Any such request shall be submitted by Monday, August 4 at 5:00 p.m. Any interpretations or corrections shall be made in writing by Addenda and such Addenda will be posted on the Mount Prospect Public Library website https://mppl.org/about-us/transparency/.

D. Award of Bid

1. The library may accept in writing one of the bids submitted or may reject any or all of the bids.

2. The library reserves the right:
    a. To waive any informality;
    b. To reject any or all bids or accept the bid deemed most favorable to the library after all bids have been examined.
    c. To award separate contracts with respect to separate items in the various Bids.

E. Bidder's Acknowledgments

1. By submitting a bid, the bidder acknowledges:
    a. He has received, reviewed, and understood the Terms of Project.
    b. He has sole responsibility for all supervision, labor, material, equipment and other items to perform all work and other matters set forth in the Terms of Project.
    c. He has sole responsibility for determining the nature and extent of any and all work required to complete the Project.
    d. All prices stated are firm.

e. The library is not subject to state or local sales, use or excise taxes and no such taxes are included in the bid.
f. All other taxes applicable to the work are included in the bid.
g. If his proposal is accepted and he fails to enter into a contract, he shall be liable to the library for any damages the library may thereby suffer.
h. The bid shall be considered accepted only when the library executes a contract.
i. The bid is binding for (90) ninety calendar days.
j. Comparison of bidders' bids is a subjective process requiring evaluation of multiple factors including price, references, recommendations, and input from third parties. This process requires subjective assessment of bidders by the Library Trustees as to overall suitability of the bidder for the Project, including assessment of:
    i. The ability, capacity, and skill of the bidder to perform the contract or provide the service required;
    ii. Whether the bidder can perform the contract or provide service promptly, or within the time specified, without delay or interference;
    iii. The character, integrity, reputation, judgment, experience, and efficiency of the bidder;
    iv. The quality of performance of previous contracts or services;
    v. The previous and existing compliance by the bidder with laws and ordinances relating to the contract or service;
    vi. The financial resources and ability of the bidder to perform the contract or provide the service;
    vii. The quality, availability, and adaptability of the supplies or contractual services to the particular use required;
    viii. The ability of the bidder to provide future maintenance and service for the Project;
    ix. Bidder's record of experience in this field.
k. The library has substantial discretion in accepting a bid based on the library's evaluation of multiple variables, only one of which is price.
l. The bidder is not relying on any oral instructions or representations and is relying solely on the Terms of Project and Addenda, if any.
m. The form of the Contract to be used for the Project is attached as Exhibit C.

EXHIBIT A: TECHNICAL SPECIFICATIONS 2025 LED Retrofit & Lighting

Scope of Project

The project consists of retrofitting and/or replacing existing lighting with energy efficient LED upgrades, including adding drivers, replacing ballasts, and replacing bulbs.

This project encompasses lighting products that are eligible for the ComEd Standard incentive program, as well as some lighting products that are not eligible. The selected contractor will be responsible for managing the entire ComEd Energy Efficiency incentive process, including application preparation, submission, and coordination of all required documentation to ensure the project qualifies for and receives all eligible rebates.

Project requirements:

1. All existing ballasts, bulbs, and other discarded pieces and parts will be removed from the premises as part of the project scope.
2. All work performed on the second floor and above shall be conducted using ladders or portable scaffolding, as lifts are not permitted in these areas.
3. Work conducted on the first floor and lower level may utilize small, single person lifts where feasible and appropriate.
4. Large furniture items, including but not limited to bookshelves, index tables, and similar furnishings, shall remain in place and will not be moved during the course of the project.
5. All shelving units and furniture within designated work areas shall be adequately covered and protected during periods of active work.
6. All work will be carried out at times and locations mutually agreed upon by the contractor and the facility representative.
7. ADDED AS PART OF ADDENDUM #1 ON 08-01-2025: All installed products are expected to be set to 3500K and 700-1000LM, however, prior to the commencement of work, the library will confirm specifications for the required lumen output and color temperature for each lighting fixture. ~~Prior to the commencement of work, the library will provide specifications for the required lumen output and color temperature for each lighting fixture.~~
8. All submitted quotes must be inclusive of all necessary materials and labor required to complete the scope of work.

Existing Environment

The existing environment consists of open areas that are accessible to the public during library open hours, as well as closed staff areas.

For the purpose of this bid, the library facility is divided into two broad areas, the **Lower Area** (lower level and first floor) and the **Upper Area** (second floor and third floor mechanical room penthouse). Lump sum amounts are requested for each of the areas. See Exhibit E for a detailed listing of each area.

ADDED AS PART OF ADDENDUM #1 ON 08-01-2025: Our existing lighting control system is ILC LightMaster.

ADDED AS PART OF ADDENDUM #1 ON 08-01-2025: Our existing lamp codes (lamp stamps) are:

- ProLume Eco-Shield F39T5/835/HO/ECO/IC (34")
- Sylvania Pentron FP54/835/HO/ECO (T5 4ft)
- GE Ecolux F32T8/SPX35/ECO2 (T8 4ft)
- GE Ecolux F25T8/SP35/ECO (T8 3ft)
- GE Ecolux F32T8 U6 SP35 ECO
- LumaPro F31T8/835/U 3500K 5NPL8

ADDED AS PART OF ADDENDUM #1 ON 08-01-2025: Meeting Rooms A and B have existing dimming Lutron ballasts in the upper soffit only. There are (28) 2-lamp T8 4ft fixtures in Meeting Room A. There are (10) 2-lamp T8 fixtures in Meeting Room B that use ballast Eco-10, 10% electric fluorescent dimming ballast, ECO-T832-120-2, Lutron. The fixtures/ballasts listed above for Meeting Rooms A and B are included in the table "Lighting Table Specifications."

ADDED AS PART OF ADDENDUM #1 ON 08-01-2025: The July 15, 2025 ComEd bill shows 7881.2 KWH used. See Exhibit G for a copy of the bill.

Lighting Product Specifications

The following products are required to be used; no substitutions will be considered. See Exhibit F for spec sheets of each product. Quantities and ComEd eligibility are provided as good-faith estimates based on available data. Contractors are responsible for independently verifying all information during the pre-bid meeting and through their own investigation.

TABLE IS UPDATED AS PART OF ADDENDUM #1 ON 08-01-2025

ID	Existing Fixture	Estimated Lower Area Qty	Estimated Upper Area Qty	Required Product	ComEd Incentive Eligible?
1	T8 4-lamp 4ft fixtures (have wire cages)	21	27	Philips Advance – LED dimmable driver IZT-4P15-TLED-N Bulbs: Philips Type C InstantFit LED tubes	Yes
2	T8 3-lamp 3ft fixture	14 3ft	136 3ft	Philips Advance – LED dimmable driver IZT-3P15-TLED-N Bulbs: Philips Type C InstantFit LED tubes	Yes
3	T8 3-lamp 4ft fixture	350 4ft	500 4ft	Philips Advance – LED dimmable driver IZT-3P15-TLED-N Bulbs: Philips Type C InstantFit LED tubes	Yes
4	T8 2-lamp 3ft fixture	45 3ft	12 3ft	Philips Advance – LED dimmable driver IZT-2P15-TLED-N Bulbs: Philips Type C InstantFit LED tubes	Yes
5	T8 2-lamp 4ft fixture	80 4ft	13 4ft	Philips Advance – LED dimmable driver IZT-2P15-TLED-N Bulbs: Philips Type C InstantFit LED tubes	Yes
6	T8 1-lamp 3ft fixture	3 3ft	0	Philips Advance – LED dimmable driver IZT-2P15-TLED-N Bulbs: Philips Type C InstantFit LED tubes	Yes
7	T5 2-lamp 34” fixture	0	52	Product not specified. Vendor shall select a Philips product that qualifies for ComEd incentives, where applicable.	Yes
8	T5 1-lamp 4ft fixture	34 4ft	66 4ft	Product not specified. Vendor shall select a Philips product that qualifies for ComEd incentives, where applicable.	Yes
9	2ft x 4ft 2-lamp T8 4ft fixture	2	0	Philips recessed EvoKit Click 2x4 CLKE 2x4 42L 29W 835 UNV SWZCS P1	Yes
10	2ft x 2ft 3-lamp T8 U-bend 4ft fixture	25	0	Philips recessed EvoKit Click 2x2 CLKE 2x2 32L 24W 835 UNV SWZCS P1	Yes
11	2ft x 2ft 2-lamp T8 U-bend 4ft fixture	27	6	Philips recessed EvoKit Click 2x2 CLKE 2x2 32L 24W 835 UNV SWZCS P1	Yes
12	6” can lights	75	45	Lightolier by Signify downlighting commercial retrofit downlight DualSelect round aperture 6” (white)	No
13	8” can lights	2	26	Lightolier by Signify downlighting commercial retrofit downlight DualSelect round aperture 8” (white)	No
14	9.5” can lights	20	15	Lightolier by Signify downlighting commercial retrofit downlight DualSelect round aperture 10” (white)	No
15	12”x12” square flush mount dual quad pin (stairwells/parking)	1	6	Lumecon workmen series LWS-RCS LED recessed canopy soffit (white)	No
16	12”x12” square flush mount dual quad pin (public entrances)	8	0	Dals CFLEDSQ14-CC-WH 14” square flush mount (white)	No

The table below is superseded by the one updated as part of ADDENDUM #1 ON 08-01-2025.

ID	Existing Fixture	Estimated Lower Area Qty	Estimated Upper Area Qty	Required Product	ComEd Incentive Eligible?
1	T8 4-lamp	21	27	Philips Advance – Type C LED dimmable driver ICN-4P16-TLED-N Bulbs: Philips LED lamps DC-FIT (Type C system)	Yes
2	T8 3-lamp 3ft	14 3ft	136 3ft	Philips Advance – Type C LED dimmable driver ICN-3P16-TLED-N Bulbs: Philips LED lamps DC-FIT (Type C system)	Yes
3	T8 3-lamp 4ft	350 4ft	500 4ft	Philips Advance – Type C LED dimmable driver ICN-3P16-TLED-N Bulbs: Philips LED lamps DC-FIT (Type C system)	Yes
4	T8 2-lamp/ 1 lamp 3ft	45 3ft	12 3ft	Philips Advance – Type C LED dimmable driver ICN-2P16-TLED-N Bulbs: Philips LED lamps DC-FIT (Type C system)	Yes
5	T8 2-lamp/ 1 lamp 4ft	80 4ft	13 4ft	Philips Advance – Type C LED dimmable driver ICN-2P16-TLED-N Bulbs: Philips LED lamps DC-FIT (Type C system)	Yes
6	T5 34”-36”	0	50	Advance by Signify Type C T5HO LED driver ICN-4S24-TLED-90C-2LS-G Bulbs: Philips LED lamps DC-FIT (Type C system)	Yes
7	T5 4ft	34 4ft	48 4ft	Advance by Signify Type C T5HO LED driver ICN-4S24-TLED-90C-2LS-G Bulbs: Philips LED lamps DC-FIT (Type C system)	Yes
8	2ft x 4ft	2		Philips recessed EvoKit Click 2x4 CLKE 2x4 42L 29W 835 UNV SWZCS P1	Yes
9	2ft x 2ft	52	7	Philips recessed EvoKit Click 2x2 CLKE 2x2 32L 24W 835 UNV SWZCS P1	Yes
10	6” can lights	75	45	Lightolier by Signify downlighting commercial retrofit downlight DualSelect round aperture 6” (white)	No
11	8” can lights	2	26	Lightolier by Signify downlighting commercial retrofit downlight DualSelect round aperture 8” (white)	No
12	9.5” can lights	20	15	Lightolier by Signify downlighting commercial retrofit downlight DualSelect round aperture 10” (white)	No
13	12”x12” square flush mount dual quad pin (stairwells/parking)	1	6	Lumecon workmen series LWS-RCS LED recessed canopy soffit (white)	No
14	12”x12” square flush mount dual quad pin (public entrances)	8	0	Dals CFLEDSQ14-CC-WH 14” square flush mount (white)	No

EXHIBIT B: REVISED BID FORM FOR 2025 LED Retrofit & Lighting

BIDS ARE DUE AUGUST 14, 2025

A. By submitting this Bid Form, the bidder:
   1. Acknowledges he has received, reviewed, and understood the Terms of Project.
   2. Acknowledges responsibility for all supervision, labor, material, equipment and other items to perform all work and other matters set forth in the Terms of Project.
   3. Acknowledges he has examined the Property and has familiarized himself with all field conditions and local conditions affecting the Project.
   4. Acknowledges sole responsibility for determining the nature and extent of any and all work required to complete the Project.
   5. Understands that, if his proposal is accepted and he fails to enter into the Contract attached, he shall be liable to the library for any damages the library may thereby suffer.
   6. Upon request from the library, will provide current financial statements.
   7. Acknowledges that this bid is an offer which shall be considered accepted only after the library accepts this bid in writing and that this bid shall be binding for 90 (ninety) calendar days.
   8. Is aware that comparison of bidders' bids is a subjective process requiring evaluation of multiple factors including price, references, recommendations, and feedback from third parties. This process requires subjective assessment of bidders by the Library Trustees as to overall suitability of the bidder for the Project.
   9. Acknowledges the Trustees have substantial discretion in accepting a bid based on the library's evaluation of multiple variables, only one of which is price (see Bidder's Acknowledgments in the Terms of Project).
   10. Acknowledgment of Addendum #1 – 08-01-2025: _____ (initial here)

B. Attached are:
   1. A bid deposit (bid guarantee) equal to ten percent (10%) of the total bid price indicated below in the form of a Bid Bond or a cashier's check or certified check. If this bid is accepted and the undersigned fails to proceed with the project as required, the bid deposit shall become the property of the Mount Prospect Public Library and shall be considered as partial payment of damages due to delay and other consequences suffered by the library;
   2. A minimum of three references for 2025 LED Retrofit & Lighting on building systems of age, condition and type comparable to the library. The reference list shall include the company name, contact name, contact phone number and the type of work done.

C. LUMP SUM **LOWER AREA** BASE BID AMOUNT IN FIGURES: _____

D. LUMP SUM **LOWER AREA** BASE BID AMOUNT SPELLED OUT: _____

_____

E. LUMP SUM **UPPER AREA** BASE BID AMOUNT IN FIGURES: _____

F. LUMP SUM **UPPER AREA** BASE BID AMOUNT SPELLED OUT: _____

_____

G. DATE OF COMPLETION OF THE PROJECT: _____

To be considered all bids must be signed, include required attachments, and be received prior to the due date and time.

PLEASE SUBMIT ONE (1) COMPLETE PACKET

Signature

Printed Name

Contractor Name

Title

Street Address

City, State, Zip

Telephone Number

Email Address

Date Signed

To be considered all proposals must:

- Be signed
- Include required attachments
- Be received prior to the due date and time

EXHIBIT C: CONTRACT FOR 2025 LED Retrofit & Lighting

The Mount Prospect Public Library and _____

(Contractor) agree that, for the total lump sum of $ _____, Contractor will perform all work on the Project in accordance with the Terms of Project and the Bid Form and the Rider to Contract, copies attached.

Mount Prospect Public Library

Signature: _____

Title: _____

Date: _____

Contractor: _____

Signature: _____

Title: _____

Date: _____

EXHIBIT D – RIDER TO CONTRACT

For Inclusion in Contract Between Mount Prospect Public Library ("Owner") and
_____ (Contractor)

Project Name/Description: _____

1. Contractor shall provide a Payment Bond and a Performance Bond in a sum equal to 100% of the amount of the Contract issued by an insurance company acceptable to Owner.

2. The Performance Bond to be provided shall contain the following language:
   a. "Any suit under this bond must be instituted before the expiration of the statute of limitation applicable to any claims against the Contractor named herein."

3. Any claims shall be commenced within the limitations stated in 735 ILCS 5/13-214. The parties intend that modifications in the Contract documents of the limitations provided by 735 ILCS 5/13-214, if any, shall be given no effect.

4. The responsibilities/liabilities of the Owner and the Contractor and their consultants, agents and employees and any concomitant damages and/or consequential damages shall be determined in such amount and to such extent as provided by Illinois law, insurance coverage, caps or limitations notwithstanding. By way of this provision, the parties intend that any limitations in the Contract documents of the amounts or types of damages available to the parties shall be given no effect.

5. Contractor shall obtain and provide lien waivers for all labor and materials for the Project.

6. The Owner has no responsibility for construction means, methods, techniques, sequences, or procedures, and/or safety precautions and programs.

7. Contractor, at Contractor's expense, will obtain and maintain all necessary permits and licenses, and pay for all governmental fees and inspections necessary for proper execution of completion of the Project.

8. Contract shall provide Owner with all documents requested by Owner thereby enabling Owner to respond timely to any request to Owner for documents pursuant to the Freedom of Information Act.

9. "As built" drawings from the Contractor are a condition of receipt of the Contractor's final payment.

10. Contractor shall purchase insurance to cover claims and expenses, including costs of defense, asserted against Owner, its agents, employees and consultants for bodily injury, sickness, disease or death caused by any negligent act or omission of the Contractor, anyone directly or indirectly employed by them or anyone for whose acts any of them may be liable. The coverage afforded the Owner shall be primary insurance for the Owner with respect to claims arising out of operations performed by or on behalf of the Contractor. If the Owner has other insurance which is applicable to the loss, such other insurance shall be on an excess or contingent basis. The amount of liability of the Contractor under this insurance policy shall not be reduced by the existence of such other insurance.

11. Work will not begin, nor will any payment be authorized absent submission by the Contractor to the Owner of proof that all required insurance coverages and bonds are in effect. A Certificate of Insurance is not adequate proof. The Contractor may provide a Certificate of Insurance but shall also provide the actual endorsement from Contractor's insurance company.

12. The Contractor shall reimburse the Owner for all reasonable fees which the Owner incurs as a result of the Contractor's failure to fulfill the Contractor's obligations including, without limitation, timely completion of the project.

13. Contractor shall pay all reasonable attorneys' fees, experts' fees, and costs incurred by the Owner in enforcing the terms and provisions of this Contract and in defending any proceeding to which the Owner is made a party as result of the acts or omissions of the Contractor.

14. Contractor acknowledges full and sole authority for all safety programs and precautions in connection with the work.

15. In an effort to resolve any conflicts that arise under this Contract, prior to commencing litigation all disputes between the Owner and the Contractors arising out of or relating to this Contract shall be submitted to non-binding mediation. After such non-binding mediation and, unless the parties agree to submit to binding arbitration, any claims, disputes, liabilities of the parties or other matters between the Owner and the Contractor shall be resolved in the Circuit Court of Cook County, Illinois in accordance with Illinois law.

16. Contractor shall defend, indemnify, and hold harmless Owner from and against all claims, losses, damages, and expenses to the extent such claims, losses, damages or expenses are caused by Contractor's conduct, acts, errors or omissions.

17. The Contractor's standard of care shall be the standard of care consistent with those usual and customary standards of care, skill and diligence which are commonly followed in performing the same or similar services in the locale where the project is located.

18. Contractor acknowledges that he has examined the property and has familiarized himself with all local conditions affecting the project.

19. Contractor shall at all times observe and comply with all laws, ordinances, regulations and codes of any applicable governmental entity including, without limitation, prevailing wage laws.

20. Contractor, at Contractor's expense, shall purchase Builder's Risk insurance coverage.

21. The Contractor shall designate a Supervisor to act as the Owner's primary contact for the Project.

22. Targeted project completion date is on or before December 19, 2025.

23. THIS RIDER TO CONTRACT IS EXECUTED ON THE DATES STATED BELOW. IN THE EVENT OF ANY CONFLICT BETWEEN THE PROVISIONS OF THIS RIDER AND ANY OTHER PROVISIONS OF THE CONTRACT, THIS RIDER CONTROLS. THIS PARAGRAPH IS STATED IN ALL CAPITAL LETTERS AND IS INITIALED AS CONFIRMATION OF THE PARTIES' UNDERSTANDING OF THE PRECEDENCE THIS RIDER TAKES OVER ANY OTHER PROVISIONS OF THE CONTRACT DOCUMENTS.

_____ _____
Contractor (Initial/Date) ***Owner (Initial/Date)***

Mount Prospect Public Library

Signature: _____

Title: _____

Date: _____

Contractor: _____

Signature: _____

Title: _____

Date: _____

EXHIBIT E – DETAILED LOCATION LIST

For the purpose of this project, the library facility is divided into two broad areas, the **Lower Area** and the **Upper Area**. Lump sum amounts are requested for each of the areas.

1. **Lower Area** includes the lower level and first floor.
   a. **Lower Level**
      1) Lower level, door 9 Mechanical room elevator B. Located in the parking garage next to the main entrance.
      2) Lower level, door 10 Elevator room. Located in the center of the parking garage.
      3) Lower level, door 11 Mechanical room elevator A. Located in the center of the parking garage.
      4) Lower level, door 13 Sprinkler room also including the interior room. Located on the East and center of the parking garage.
      5) Lower level, door 12 Storage as well as elevator C Mechanical room. Located on the Southeast corner of the parking garage.
      6) Lower level, lobby.
      7) Lower level, main Friends of the Library room and the adjacent restroom.
      8) Lower level, stair B.

   b. **First Floor**
      9) First floor, two outside lights just before the main entry doors.
      10) First floor, main entrance two vestibule lights.
      11) First floor, entrance lobby and in front of community information wall.
      12) First floor, Northeast hallway to meeting rooms.
      13) First floor, meeting room B.
      14) First floor, meeting room A.
      15) First floor, lobby restrooms.
      16) First floor, lobby room 186 Janitor closet B.
      17) First floor, lobby area, room 135 Administration including offices and workrooms: 138,139,135, human resources area, 141, copy room\area, restroom, 156 kitchen, 142, 148, 147, 146, 145, 144, 143, cubical center space, marketing and communications area (adjacent to 121 graphics workroom), 123, 121 Graphics workroom and 124.
      18) First floor, behind checkout counter, room 132 Data closet.
      19) First floor, behind the checkout counter, four can lights.
      20) First floor, next to the checkout counter, room 130.
      21) First floor, next to the checkout counter, room 131 Janitor closet A.
      22) First floor, all tube fixtures and can lights in the youth department. The decorative ceiling light fixture is not included in this project.
      23) First floor, youth room 157 Storage.
      24) First floor, youth room 189 Electrical A.
      25) First floor, youth study rooms 113 and 114.
      26) First floor, youth room 115 Youth services workroom, rooms 118 storage, 117 and 116.

27) First floor, youth 119 program room A and B.
28) First floor, youth room 120.
29) First floor, youth room 125 Storage.
30) First floor, youth three restrooms.
31) First floor staffing area, room 178 Loading dock including room 179 Book drop.
32) First floor staffing area, rooms 173, 171, 172, 169, 168, 166, staffing hallway, kitchen area, locker hallway, 161 Janitor closet C and restrooms.

2. **Upper Area** includes the second floor and third floor mechanical room penthouse.
   a. **Second Floor**
      33) All tube fixtures on the second floor.
      34) The can lights in the drop ceiling tiles West of the main staircase on the second floor are not included in this project.
      35) All other can lights on the second floor are included.
      36) The only decorative ceiling structure on the second floor to be retrofit is above Genealogy.
      37) Second floor, all higher alcove tubes along the inner perimeter, including in the teen study rooms.
      38) Second floor, room 236 Electrical closet C.
      39) Second floor, room 235 Storage.
      40) Second floor, room 203 Data closet 2.
      41) Second floor, restrooms.
      42) Second floor, room 237 Janitor closet E.
      43) Second floor, room 209.1 Janitor closet D.
      44) Second floor, study rooms 2I, 2H, 2G, 2F, 2E, 2D, and 2C. Rooms 2G and 2F also include the alcove lights.
      45) Second floor staffing area including: two restrooms, rooms 229, 228, 226, the cubical area, 222X, 225, 224, and 223.
      46) Second floor staffing area, room 220 Computer services workroom and office 221.
      47) Stairs A, D and E.

   b. **Third Floor Mechanical Room Penthouse**
      40) Second floor stair F.
      41) Third floor mechanical room including: the storage room on the South wall, the electrical room on the West wall and the generator room on the North wall of the electrical room.

EXHIBIT F – SPEC SHEETS FOR LIGHTING PRODUCTS

EvoKit Click 2x4

EvoKit CLKE 2x4 42L 29W 835 UNV SWZCS P1

The Philips EvoKit LED Retrofit Kits are an energy efficient, easy to install solution to upgrade your fluorescent troffers to LED. Compatible with both standard and narrow T-grids, they offer a simple retrofit that will improve the look of your ceiling with its architectural styling without the need to actually break the ceiling plenum. The units also come standard with dimming capabilities, making them perfect for applications such as offices, classrooms, healthcare facilities, retail space and more. The Philips EvoKit LED Retrofit Kits offer the latest advances in LED technology, resulting in quality lighting with extremely high efficacies of up to 149 lm/w. The 1'x4', 2'x2' and the 2'x4' EvoKit are manufactured with quality components and finishes, meaning a consistent, balanced lighting scheme when using both configurations in the same space. The main diffuser and slanted troffer help reduce glare and create a pleasant, uniform throw of the light. Combine the aesthetics and quality with the ease of installation, and this product can literally transform your space in minutes!

Product data

General Information	
Lighting Technology	LED
Mounting	Recessed
Number Of Pieces	1

Light Technical	
Luminous Flux	4,200 lm
Correlated Color Temperature (Nom)	3500 K
Luminous Efficacy (rated) (Nom)	144 lm/W
Color rendering index (CRI)	80

Operating and Electrical	
Power Consumption	29 W
Voltages	120/277 V

Mechanical and Housing	
Fixture Size	2 ft x 4 ft
Enclosure	Metal and Plastic
Net Weight (Piece)	12.317 lb

Product Data	
Order product name	EvoKit CLKE 2x4 42L 29W 835 UNV SWZCS P1
Full product name	EvoKit CLKE 2x4 42L 29W 835 UNV SWZCS P1
Order code	EvoKit CLKE 2x4 42L 29W 835 UNV SWZCS P1
Material Nr. (12NC)	929002734313
Numerator - Quantity Per Pack	1
EAN/UPC - Product/Case	781087167847

EvoKit Click 2x4

Numerator - Packs per outer box	1
EAN/UPC - Case	50781087167842

ADVANCE
by signify

T8 LED Driver

Mark 7 0-10V

IZT-2P15-TLED-N

IZT-2P15-TLED-N

Brand Name	**Mark 7 0-10V**
Driver Type	**Electronic Dimming**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Specifications

Description	Product No.	Model No.	Ordering Code	Bare Lamp Watts (W)	Nom. Initial Lumens	Min. Start Temp (°F/°C)	Num. of Lamps	Input Current @ Max Output (A)	Input Power (Min/ Max) (W)	THD% @ Max Output	Power Factor @ Max Output
Philips LED InstantFit T8 - 4' MasterClass	565580 565598 565606 565614	9290030253/A 9290030254/A 9290030255/A 9290030256/A	8.9T8/MAS/48-830/IF15/P/DIM 10/1 8.9T8/MAS/48-835/IF15/P/DIM 10/1 8.9T8/MAS/48-840/IF16/P/DIM 10/1 8.9T8/MAS/48-850/IF16/P/DIM 10/1	8.9	1500 1500 1600 1600	-13/-25	2	0.210/0.100	3.5 / 25	10	0.99/0.91
							1	0.130/0.070	3 / 15	15	0.97/0.81
Philips LED InstantFit T8 - 4' CorePro	553214 553222 553230 553248	9290022527A 9290022528A 9290019917A 9290019918A	10T8/COR/48-830/IF15/G 10/1 10T8/COR/48-835/IF15/G 10/1 10T8/COR/48-840/IF16/G 10/1 10T8/COR/48-850/IF16/G 10/1	10	1500 1500 1600 1600	-13/-25	2	0.230/0.110	3.5 / 27	10	0.99/0.92
Philips LED InstantFit T8 - 4' High Output MasterClass	473926 473934 473942 473958	9290013976E/F 9290013977E/F 9290013978E/F 9290013979E/F	13T8/MAS/48-830/IF20/P/DIM 10/1 13T8/MAS/48-835/IF20/P/DIM 10/1 13T8/MAS/48-840/IF21/P/DIM 10/1 13T8/MAS/48-850/IF21/P/DIM 10/1	13	2000 2000 2100 2100	-13/-25	2	0.280/0.120	4 / 33	10	0.99/0.94
							1	0.160/0.080	3 / 19	15	0.98/0.87
Philips LED InstantFit U-Bent T8 - 6U MasterClass	541854 541862 541870 541888	9290019874B 9290019875B 9290019876B 9290019877B	13T8-6U/MAS/24-830/IF20/P/DIM 10/1 13T8-6U/MAS/24-835/IF20/P/DIM 10/1 13T8-6U/MAS/24-840/IF21/P/DIM 10/1 13T8-6U/MAS/24-850/IF21/P/DIM 10/1	13	2000 2000 2100 2100	-13/-25	2	0.280/0.120	4 / 33	10	0.99/0.94
							1	0.160/0.080	3 / 19	15	0.98/0.86
Philips LED InstantFit T8 - 4' High Output CorePro	580266 580274 580381	9290035565 9290035566 9290035623	11.5T8/COR/48-835/IF20/G/DIM 25/1 11.5T8/COR/48-840/IF21/G/DIM 25/1 11.5T8/COR/48-850/IF21/G/DIM 25/1	11.5	2000 2100 2100	-13/-25	2	0.250/0.120	4 / 29	10	0.99/0.92
							1	0.150/0.080	3 / 17	15	0.97/0.83
	470096 470104 470112 470120	9290013430B 9290013431B 9290013432B 9290013433B	14T8/COR/48-830/IF20/G 10/1 14T8/COR/48-835/IF20/G 10/1 14T8/COR/48-840/IF21/G 10/1 14T8/COR/48-850/IF21/G 10/1	14	2000 2000 2100 2100	-13/-25	2	0.230/0.110	4 / 28	10	0.99/0.92
Philips LED InstantFit T8 - 4' Ultra High Output MasterClass	545178 533372 545194 545200	9290020162B/C 9290020163B/C 9290020164B/C 9290020165B/C	15.5T8/MAS/48-830/IF23/P/DIM 25/1 15.5T8/MAS/48-835/IF24/P/DIM 25/1 15.5T8/MAS/48-840/IF25/P/DIM 25/1 15.5T8/MAS/48-850/IF25/P/DIM 25/1	15.5	2300 2400 2500 2500	-13/-25	2	0.300/0.135	4 / 35	10	0.99/0.94
							1	0.160/0.080	3 / 19	15	0.98/0.87

Mark 7 0-10V IZT-2P15-TLED-N

IZT-2P15-TLED-N

Brand Name	**Mark 7 0-10V**
Driver Type	**Electronic Dimming**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Specifications

Description	Product No.	Model No.	Ordering Code	Bare Lamp Watts (W)	Nom. Initial Lumens	Min. Start Temp (°F/°C)	Num. of Lamps	Input Current @ Max Output (A)	Input Power (Min/Max) (W)	THD% @ Max Output	Power Factor @ Max Output
Philips LED InstantFit T8 - 3' MasterClass	539858	9290019675B/D	8.5T8/MAS/36-830/IF13/P/DIM 10/1	8.5	1300	-13/-25	2	0.190/0.090	3.5 / 22	10	0.98/0.89
	539866	9290019679B/D	8.5T8/MAS/36-835/IF13/P/DIM 10/1		1300						
	539874	9290019676B/D	8.5T8/MAS/36-840/IF14/P/DIM 10/1		1400		1	0.120/0.060	3 / 14	15	0.97/0.80
	539882	9290019677B/D	8.5T8/MAS/36-850/IF14/P/DIM 10/1		1400						
Philips LED InstantFit T8 - 2' MasterClass	541813	9290019869B/C	7T8/MAS/24-830/IF10/P/DIM 10/1	7	1050	-13/-25	2	0.170/0.080	3.5 / 20	10	0.98/0.87
	541821	9290019870B/C	7T8/MAS/24-835/IF10/P/DIM 10/1		1050						
	541839	9290019871B/C	7T8/MAS/24-840/IF11/P/DIM 10/1		1150		1	0.110/0.060	3 / 15	15	0.97/0.77
	541847	9290019872B/C	7T8/MAS/24-850/IF11/P/DIM 10/1		1150						

IZT-2P15-TLED-N

Brand Name	**Mark 7 0-10V**
Driver Type	**Electronic Dimming**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

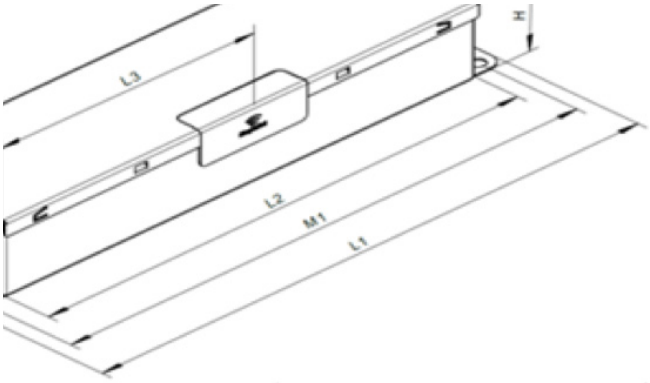
Mark 7 0-10V IZT-2P15-TLED-N

IZT-2P15-TLED-N

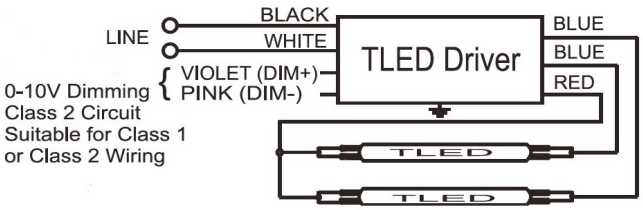
Brand Name	**Mark 7 0-10V**
Driver Type	**Electronic Dimming**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Enclosure

	In. (cm)
Case Width (W)	1.3 (3.3)
Case Height (H)	1.0 (2.5)
Mounting Length (M)	8.90 (22.6)
Overall Length (L1)	9.5 (24.1)



Wiring Diagram



Standard Lead Lengths

	in.	cm.
Black	24	61.0
White	24	61.0
Blue	28	71.1
Red	43	109.2
Violet	32	81.3
Pink	32	81.3

Mark 7 0-10V IZT-2P15-TLED-N

IZT-2P15-TLED-N

Brand Name	**Mark 7 0-10V**
Driver Type	**Electronic Dimming**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Electrical Specifications

Section I - Physical Characteristics

1.1 Driver shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.
1.2 Driver shall be provided with integral leads color coded per ANSI C82.11.

Section II - Performance Requirements

2.1 Driver shall energize compatible LED lamps within 1 second after mains power is applied.
2.2 Driver shall provide Independent Lamp Operation (ILO) allowing remaining lamp(s) to maintain full light output when one or more lamps fail.
2.3 Driver shall contain auto restart circuitry in order to restart lamps without resetting power.
2.4 Driver shall operate from a 50Hz or 60 Hz AC input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency).
2.5 Driver shall be high frequency electronic type and operate lamps at frequencies above 42 kHz to avoid interference with infrared devices and eliminate visible flicker.
2.6 Driver shall have a Power Factor of 0.87 or above when operating the maximum rated number of compatible lamps, and 0.77 or above when operating the minimum rated number of compatible lamps.
2.7 Driver input current shall Total Harmonic Distortion (THD) of 10% or less when operating the maximum rated number of compatible lamps and 15% or less when operating the minimum rated number of compatible lamps.
2.8 Driver shall have a Class A sound rating.
2.9 Driver shall have a minimum starting temperature of -13°F / -25°C.
2.10 Driver shall tolerate sustained open circuit and short circuit output conditions.
2.11 Driver shall be capable of operating lamps remotely and in tandem for wire lengths up to 20 ft.
2.12 Driver shall be suitable of operation in up to a 45°C ambient temperature.

Section III - Regulatory Requirements

3.1 Driver shall not contain any Polychlorinated Biphenyl (PCB).
3.2 Driver shall be Underwriters Laboratories (UL) Recognized with Both UL and CSA Standards, and suitable for Damp and Dry conditions.
3.3 Driver shall comply with ANSI C62.41 Category A Transient protection.
3.4 Driver shall comply with the requirements of the Federal Communication Commission (FCC) rules and regulations, Title 47, CFR part 15, Non-Consumer (Class A) for EMI/RFI (conducted and radiated).
3.5 Driver shall comply with NEMA 410 for in-rush current limits.

Section IV - Other

4.1 Driver shall be manufactured in a factory certified to ISO 9001 Quality System Standards.
4.2 Driver shall carry a five year warranty from date of manufacture against defects in material and workmanship when operating in a 45°C ambient environment or less.

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400 Crossing Blvd, Suite 600
Bridgewater, NJ 08807
Telephone: 855-486-2216

Signify Canada Ltd.
281 Hillmount Road,
Markham, ON, Canada L6C 2S3
Telephone: 800-668-9008

ADVANCE
by signify

T8 LED Driver

Mark 7 0-10V

IZT-3P15-TLED-N

IZT-3P15-TLED-N

Brand Name	**Mark 7 0-10V**
Driver Type	**Electronic Dimming**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Specifications

Description	Product No.	Model No.	Ordering Code	Bare Lamp Watts (W)	Nom. Initial Lumens	Min. Start Temp (°F/°C)	Num. of Lamps	Input Current @ Max Output (A)	Input Power (Min/Max) (W)	THD% @ Max Output	Power Factor @ Max Output
Philips LED InstantFit T8 - 4' MasterClass	565580 565598 565606 565614	9290030253/A 9290030254/A 9290030255/A 9290030256/A	8.9T8/MAS/48-830/IF15/P/DIM 10/1 8.9T8/MAS/48-835/IF15/P/DIM 10/1 8.9T8/MAS/48-840/IF16/P/DIM 10/1 8.9T8/MAS/48-850/IF16/P/DIM 10/1	8.9	1500 1500 1600 1600	-13/-25	3	0.28/0.12	5 / 33	10	0.99/0.94
							2	0.21/0.10	5 / 25	15	0.98 / 0.91
Philips LED InstantFit T8 - 4' CorePro	553214 553222 553230 553248	9290022527A 9290022528A 9290019917A 9290019918A	10T8/COR/48-830/IF15/G 10/1 10T8/COR/48-835/IF15/G 10/1 10T8/COR/48-840/IF16/G 10/1 10T8/COR/48-850/IF16/G 10/1	10	1500 1500 1600 1600	-13/-25	3	0.32/0.14	6 / 39	10	0.99/0.96
							2	0.23/0.11	6 / 29	15	0.99/0.93
Philips LED InstantFit T8 - 4' High Output MasterClass	473926 473934 473942 473958	9290013976E/F 9290013977E/F 9290013978E/F 9290013979E/F	13T8/MAS/48-830/IF20/P/DIM 10/1 13T8/MAS/48-835/IF20/P/DIM 10/1 13T8/MAS/48-840/IF21/P/DIM 10/1 13T8/MAS/48-850/IF21/P/DIM 10/1	13	2000 2000 2100 2100	-13/-25	3	0.39/0.17	6 / 46	10	0.99/0.97
							2	0.29/0.13	5 / 34	15	0.99/0.95
Philips LED InstantFit T8 - 4' High Output CorePro	580266 580274 580381	9290035565 9290035566 9290035623	11.5T8/COR/48-835/IF20/G/DIM 25/1 11.5T8/COR/48-840/IF21/G/DIM 25/1 11.5T8/COR/48-850/IF21/G/DIM 25/1	11.5	2000 2100 2100	-13/-25	3	0.36/0.16	4 / 42	10	0.99/0.97
							2	0.26/0.12	4 / 31	10	0.98/0.92
	470096 470104 470112 470120	9290013430B 9290013431B 9290013432B 9290013433B	14T8/COR/48-830/IF20/G 10/1 14T8/COR/48-835/IF20/G 10/1 14T8/COR/48-840/IF21/G 10/1 14T8/COR/48-850/IF21/G 10/1	14	2000 2000 2100 2100	-13/-25	3	0.34/0.15	6 / 40	10	0.99/0.96
							2	0.24/0.11	6 / 29	15	0.99/0.93
Philips LED InstantFit T8 - 4' Ultra High Output MasterClass	545178 533372 545194 545200	9290020162C 9290020163C 9290020164C 9290020165C	15.5T8/MAS/48-830/IF23/P/DIM 25/1 15.5T8/MAS/48-835/IF24/P/DIM 25/1 15.5T8/MAS/48-840/IF25/P/DIM 25/1 15.5T8/MAS/48-850/IF25/P/DIM 25/1	15.5	2300 2400 2500 2500	-13/-25	3	0.43/0.19	4 / 51	10	0.99/0.97
							2	0.31/0.14	4 / 37	10	0.99/0.95
	545178 533372 545194 545200	9290020162B 9290020163B 9290020164B 9290020165B	15.5T8/MAS/48-830/IF23/P/DIM 25/1 15.5T8/MAS/48-835/IF24/P/DIM 25/1 15.5T8/MAS/48-840/IF25/P/DIM 25/1 15.5T8/MAS/48-850/IF25/P/DIM 25/1	15.5	2300 2400 2500 2500	-13/-25	3	0.43/0.19	6 / 51	10	0.99/0.97
							2	0.31/0.14	5.5 / 37	10	0.99/0.95
Philips LED InstantFit T8 - 3' MasterClass	539858 539866 539874 539882	9290019675B/D 9290019679B/D 9290019676B/D 9290019677B/D	8.5T8/MAS/36-830/IF13/P/DIM 10/1 8.5T8/MAS/36-835/IF13/P/DIM 10/1 8.5T8/MAS/36-840/IF14/P/DIM 10/1 8.5T8/MAS/36-850/IF14/P/DIM 10/1	8.5	1300 1300 1400 1400	-13/-25	3	0.25/0.11	5 / 30	10	0.98/0.94
							2	0.19/0.09	5 / 23	15	0.98/0.90
Philips LED InstantFit T8 - 2' MasterClass	541813 541821 541839 541847	9290019869B/C 9290019870B/C 9290019871B/C 9290019872B/C	7T8/MAS/24-830/IF10/P/DIM 10/1 7T8/MAS/24-835/IF10/P/DIM 10/1 7T8/MAS/24-840/IF11/P/DIM 10/1 7T8/MAS/24-850/IF11/P/DIM 10/1	7	1050 1050 1150 1150	-13/-25	3	0.23/0.11	5 / 27	10	0.98/0.92
							2	0.17/0.09	5 / 21	15	0.98/0.89

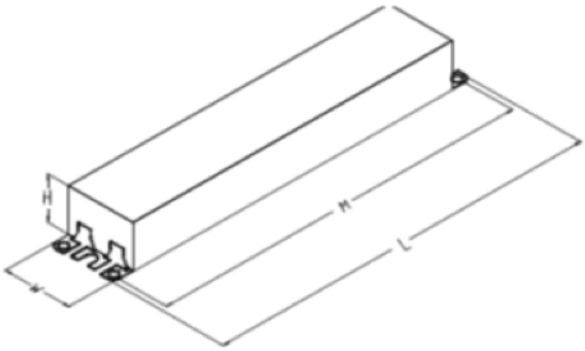
Mark 7 0-10V IZT-3P15-TLED-N

IZT-3P15-TLED-N

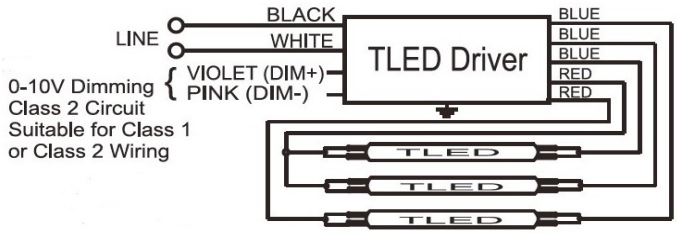
Brand Name	**Mark 7 0-10V**
Driver Type	**Electronic Dimming**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Enclosure

	In. (cm)
Case Width (W)	1.3 (3.3)
Case Height (H)	1.0 (2.5)
Mounting Length (M)	8.90 (22.6)
Overall Length (L1)	9.5 (24.1)



Wiring Diagram



Standard Lead Lengths

	in.	cm.
Black	24	61.0
White	24	61.0
Blue	28	71.1
Red	43	109.2
Violet	32	81.3
Pink	32	81.3

Mark 7 0-10V IZT-3P15-TLED-N

IZT-3P15-TLED-N

Brand Name	**Mark 7 0-10V**
Driver Type	**Electronic Dimming**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Electrical Specifications

Section I - Physical Characteristics

1.1 Driver shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.
1.2 Driver shall be provided with integral leads color coded per ANSI C82.11.

Section II - Performance Requirements

2.1 Driver shall energize compatible LED lamps within 1 second after mains power is applied.
2.2 Driver shall provide Independent Lamp Operation (ILO) allowing remaining lamp(s) to maintain full light output when one or more lamps fail.
2.3 Driver shall contain auto restart circuitry in order to restart lamps without resetting power.
2.4 Driver shall operate from a 50Hz or 60 Hz AC input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency).
2.5 Driver shall be high frequency electronic type and operate lamps at frequencies above 42 kHz to avoid interference with infrared devices and eliminate visible flicker.
2.6 Driver shall have a Power Factor of 0.90 or above when operating the maximum rated number of compatible lamps, and 0.89 or above when operating the minimum rated number of compatible lamps.
2.7 Driver input current shall Total Harmonic Distortion (THD) of 10% or less when operating the maximum rated number of compatible lamps and 15% or less when operating the minimum rated number of compatible lamps.
2.8 Driver shall have a Class A sound rating.
2.9 Driver shall have a minimum starting temperature of -13°F / -25°C.
2.10 Driver shall tolerate sustained open circuit and short circuit output conditions.
2.11 Driver shall be capable of operating lamps remotely and in tandem for wire lengths up to 20 ft.
2.12 Driver shall be suitable of operation in up to a 45°C ambient temperature.

Section III - Regulatory Requirements

3.1 Driver shall not contain any Polychlorinated Biphenyl (PCB).
3.2 Driver shall be Underwriters Laboratories (UL) Recognized with Both UL and CSA Standards, and suitable for Damp and Dry conditions.
3.3 Driver shall comply with ANSI C62.41 Category A Transient protection.
3.4 Driver shall comply with the requirements of the Federal Communication Commission (FCC) rules and regulations, Title 47, CFR part 15, Non-Consumer (Class A) for EMI/RFI (conducted and radiated).
3.5 Driver shall comply with NEMA 410 for in-rush current limits.

Section IV - Other

4.1 Driver shall be manufactured in a factory certified to ISO 9001 Quality System Standards.
4.2 Driver shall carry a five year warranty from date of manufacture against defects in material and workmanship when operating in a 45°C ambient environment or less.

Signify North America Corporation
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Telephone: 800-668-9008

ADVANCE
by signify

T8 LED Driver

Mark 7 0-10V

IZT-4P15-TLED-N

IZT-4P15-TLED-N

Brand Name	**Mark 7 0-10V**
Driver Type	**Electronic Dimming**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Specifications

Description	Product No.	Model No.	Ordering Code	Bare Lamp Watts (W)	Nom. Initial Lumens	Min. Start Temp (°F/°C)	Num. of Lamps	Input Current @ Max Output (A)	Input Power (Min/Max) (W)	THD% @ Max Output	Power Factor @ Max Output
Philips LED InstantFit T8 - 4' MasterClass	565580 565598 565606 565614	9290030253/A 9290030254/A 9290030255/A 9290030256/A	8.9T8/MAS/48-830/IF15/P/DIM 10/1 8.9T8/MAS/48-835/IF15/P/DIM 10/1 8.9T8/MAS/48-840/IF16/P/DIM 10/1 8.9T8/MAS/48-850/IF16/P/DIM 10/1	8.9	1500 1500 1600 1600	-13/-25	4	0.34/0.15	6 / 40	10	0.99/0.95
							3	0.28/0.13	5 / 33	15	0.98/0.93
Philips LED InstantFit T8 - 4' CorePro	553214 553222 553230 553248	9290022527A 9290022528A 9290019917A 9290019918A	10T8/COR/48-830/IF15/G 10/1 10T8/COR/48-835/IF15/G 10/1 10T8/COR/48-840/IF16/G 10/1 10T8/COR/48-850/IF16/G 10/1	10	1500 1500 1600 1600	-13/-25	4	0.45/0.20	6 / 54	10	0.99/0.97
							3	0.38/0.17	6 / 45	15	0.98/0.96
Philips LED InstantFit T8 - 4' High Output MasterClass	473926 473934 473942 473958	9290013976E/F 9290013977E/F 9290013978E/F 9290013979E/F	13T8/MAS/48-830/IF20/P/DIM 10/1 13T8/MAS/48-835/IF20/P/DIM 10/1 13T8/MAS/48-840/IF21/P/DIM 10/1 13T8/MAS/48-850/IF21/P/DIM 10/1	13	2000 2000 2100 2100	-13/-25	4	0.49/0.21	6 / 59	10	0.99/0.95
							3	0.40/0.18	5 / 48	10	0.99/0.97
Philips LED InstantFit T8 - 4' High Output CorePro	580266 580274 580381	9290035565 9290035566 9290035623	11.5T8/COR/48-835/IF20/G/DIM 25/1 11.5T8/COR/48-840/IF21/G/DIM 25/1 11.5T8/COR/48-850/IF21/G/DIM 25/1	11.5	2000 2100 2100	-13/-25	4	0.46/0.21	7 / 55	10	0.99/0.95
							3	0.39/0.17	6 / 46	10	0.99/0.96
	470096 470104 470112 470120	9290013430B 9290013431B 9290013432B 9290013433B	14T8/COR/48-830/IF20/G 10/1 14T8/COR/48-835/IF20/G 10/1 14T8/COR/48-840/IF21/G 10/1 14T8/COR/48-850/IF21/G 10/1	14	2000 2000 2100 2100	-13/-25	4	0.46/0.20	6 / 54	10	0.99/0.97
							3	0.42/0.19	6 / 51	10	0.98/0.96
Philips LED InstantFit T8 - 4' Ultra High Output MasterClass	545178 533372 545194 545200	9290020162C 9290020163C 9290020164C 9290020165C	15.5T8/MAS/48-830/IF23/P/DIM 25/1 15.5T8/MAS/48-835/IF24/P/DIM 25/1 15.5T8/MAS/48-840/IF25/P/DIM 25/1 15.5T8/MAS/48-850/IF25/P/DIM 25/1	15.5	2300 2400 2500 2500	-13/-25	4	0.59/0.26	7 / 70	10	0.99/0.98
							3	0.49/0.21	6 / 60	10	0.99/0.97
	545178 533372 545194 545200	9290020162B 9290020163B 9290020164B 9290020165B	15.5T8/MAS/48-830/IF23/P/DIM 25/1 15.5T8/MAS/48-835/IF24/P/DIM 25/1 15.5T8/MAS/48-840/IF25/P/DIM 25/1 15.5T8/MAS/48-850/IF25/P/DIM 25/1	15.5	2300 2400 2500 2500	-13/-25	4	0.59/0.26	6.5 / 70	10	0.99/0.98
							3	0.49/0.21	5.5 / 60	15	0.99/0.97
Philips LED InstantFit T8 - 3' MasterClass	539858 539866 539874 539882	9290019675B/D 9290019679B/D 9290019676B/D 9290019677B/D	8.5T8/MAS/36-830/IF13/P/DIM 10/1 8.5T8/MAS/36-835/IF13/P/DIM 10/1 8.5T8/MAS/36-840/IF14/P/DIM 10/1 8.5T8/MAS/36-850/IF14/P/DIM 10/1	8.5	1300 1300 1400 1400	-13/-25	4	0.31/0.14	5 / 37	10	0.99/0.95
							3	0.26/0.12	5 / 31	15	0.98/0.89
Philips LED InstantFit T8 - 2' MasterClass	541813 541821 541839 541847	9290019869B/C 9290019870B/C 9290019871B/C 9290019872B/C	7T8/MAS/24-830/IF10/P/DIM 10/1 7T8/MAS/24-835/IF10/P/DIM 10/1 7T8/MAS/24-840/IF11/P/DIM 10/1 7T8/MAS/24-850/IF11/P/DIM 10/1	7	1050 1050 1150 1150	-13/-25	4	0.28/0.13	5 / 34	10	0.99/0.93
							3	0.24/0.12	5 / 28	18	0.98/0.89

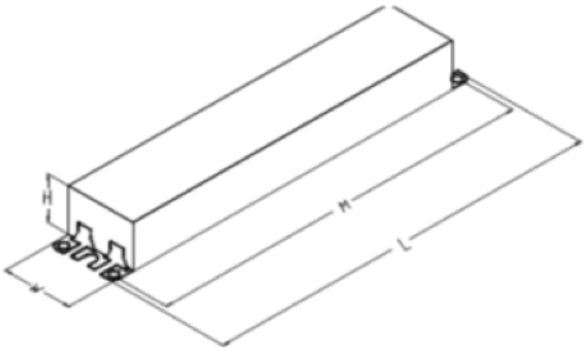
Mark 7 0-10V IZT-4P15-TLED-N

IZT-4P15-TLED-N

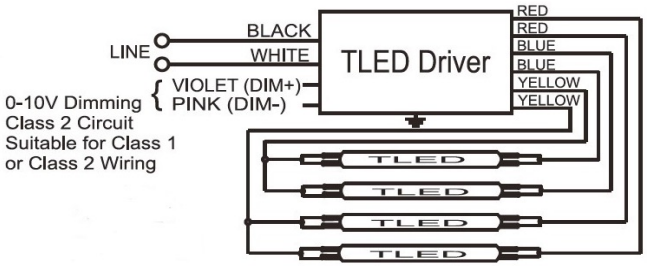
Brand Name	**Mark 7 0-10V**
Driver Type	**Electronic Dimming**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Enclosure

	In. (cm)
Case Width (W)	1.3 (3.3)
Case Height (H)	1.0 (2.5)
Mounting Length (M)	8.90 (22.6)
Overall Length (L1)	9.5 (24.1)



Wiring Diagram



Standard Lead Lengths

	in.	cm.
Black	24	61.0
White	24	61.0
Blue	28	71.1
Red	28	71.1
Yellow	43	109.2
Violet	32	81.3
Pink	32	81.3

Mark 7 0-10V IZT-4P15-TLED-N

IZT-4P15-TLED-N

Brand Name	**Mark 7 0-10V**
Driver Type	**Electronic Dimming**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Electrical Specifications

Section I - Physical Characteristics

1.1 Driver shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.
1.2 Driver shall be provided with integral leads color coded per ANSI C82.11.

Section II - Performance Requirements

2.1 Driver shall energize compatible LED lamps within 1 second after mains power is applied.
2.2 Driver shall provide Independent Lamp Operation (ILO) allowing remaining lamp(s) to maintain full light output when one or more lamps fail.
2.3 Driver shall contain auto restart circuitry in order to restart lamps without resetting power.
2.4 Driver shall operate from a 50Hz or 60 Hz AC input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency).
2.5 Driver shall be high frequency electronic type and operate lamps at frequencies above 42 kHz to avoid interference with infrared devices and eliminate visible flicker.
2.6 Driver shall have a Power Factor of 0.90 or above when operating the maximum rated number of compatible lamps, and 0.87 or above when operating the minimum rated number of compatible lamps.
2.7 Driver input current shall Total Harmonic Distortion (THD) of 10% or less when operating the maximum rated number of compatible lamps and 18% or less when operating the minimum rated number of compatible lamps.
2.8 Driver shall have a Class A sound rating.
2.9 Driver shall have a minimum starting temperature of -13°F / -25°C.
2.10 Driver shall tolerate sustained open circuit and short circuit output conditions.
2.11 Driver shall be capable of operating lamps remotely and in tandem for wire lengths up to 20 ft.
2.12 Driver shall be suitable of operation in up to a 45°C ambient temperature.

Section III - Regulatory Requirements

3.1 Driver shall not contain any Polychlorinated Biphenyl (PCB).
3.2 Driver shall be Underwriters Laboratories (UL) Recognized with Both UL and CSA Standards, and suitable for Damp and Dry conditions.
3.3 Driver shall comply with ANSI C62.41 Category A Transient protection.
3.4 Driver shall comply with the requirements of the Federal Communication Commission (FCC) rules and regulations, Title 47, CFR part 15, Non-Consumer (Class A) for EMI/RFI (conducted and radiated).
3.5 Driver shall comply with NEMA 410 for in-rush current limits.

Section IV - Other

4.1 Driver shall be manufactured in a factory certified to ISO 9001 Quality System Standards.
4.2 Driver shall carry a five year warranty from date of manufacture against defects in material and workmanship when operating in a 45°C ambient environment or less.

Signify North America Corporation
400 Crossing Blvd, Suite 600
Bridgewater, NJ 08807
Telephone: 855-486-2216

Signify Canada Ltd.
281 Hillmount Road,
Markham, ON, Canada L6C 2S3
Telephone: 800-668-9008

LIGHTOLIER
by signify

Downlighting

Commercial retrofit Downlight DualSelect

4", 6", 8" & 10" round aperture

Project:

Location:

Cat.No:

Type:

Notes:

The Lightolier Commercial retrofit Downlight DualSelect is an easy to install downlight with adjustable lumen and CCT output switch. This convenient downlight is ideal for retail store, residential and office application.

Fixture

example: CR4RLMCCT

Family	Size/Lumens	CCT	Voltage	Finish
CR		CCT		
CR Commercial Retrofit Downlight DualSelect	**4RLM** 4" Round 500-1000lm, 90CRI, 0-10V Dimming **6RLM** 6" Round 700-1500lm, 90CRI, 0-10V Dimming **8RLM** 8" Round 1000-2000lm, 90CRI, 0-10V Dimming **10RLM** 10" Round 2000-3000lm, 90CRI, 0-10V Dimming	**CCT** 3000K - 3500K - 4000K	**-** 120/347V	**-** White

Features

1. **Flange:** Aluminum white painted with baffle.
2. **Power supply:** Integral class 1 driver. (see Electrical section for specifications)
3. **Lifetime:** L70 at 50,000 hours and backed with a 5-year warranty (see www.lightolier.com for details).
4. **LED board:** Light emitted source.
5. **Power connection:** Trim is supplied with quick connect metal conduit with connector inside.
6. **Dimming:** 0-10V Dimming
7. **Lumen Selectable:** Ability to switch to three different lumen package. Select the desired lumen output using the switch before installation. Lumen output can be changed after installation by un-installing the luminare from the ceiling.

   Note: The default setting from Factory is set to the highest lumen value.
8. **CCT Selectable:** Select the desired CCT using the switch before installation. CCT can be changed after installation by un-installing the luminaire from the ceiling.

Electrical

Electronic power supply: RoHS compliant. Class 1 power unit for use in a dry and damp locations.

Labels

cULus listed.
ENERGY STAR®.

Electrical Specs	Nominal Lumens	Input Volts	Input Freq.	Input Current	Input Power	THD Factor	Power Factor	Minimum Operating Temp.	Maximum Operating Temp.	IC/ Non-IC	Efficacy @90CRI 3000K
CR4RLMCCT	500lm/700lm/1000lm	120-347V	50/60HZ	102-21mA	5.5/8/12W	<25%@120V	>0.9@120V	-20°C	40°C	IC	80lm/W
CR6RLMCCT	700lm/1000lm/1500lm	120-347V	50/60HZ	147-26mA	7/10/17W	<25%@120V	>0.9@120V	-20°C	40°C	IC	85lm/W
CR8RLMCCT	1000lm/1500lm/2000lm	120-347V	50/60HZ	174-36mA	10/15/21W	<25%@120V	>0.9@120V	-20°C	40°C	IC	90lm/W
CR10RLMCCT	2000lm/2500lm/3000lm	120-347V	50/60HZ	264-65mA	20/25/32W	<25%@120V	>0.9@120V	-20°C	40°C	NON-IC	90lm/W

Compatibility

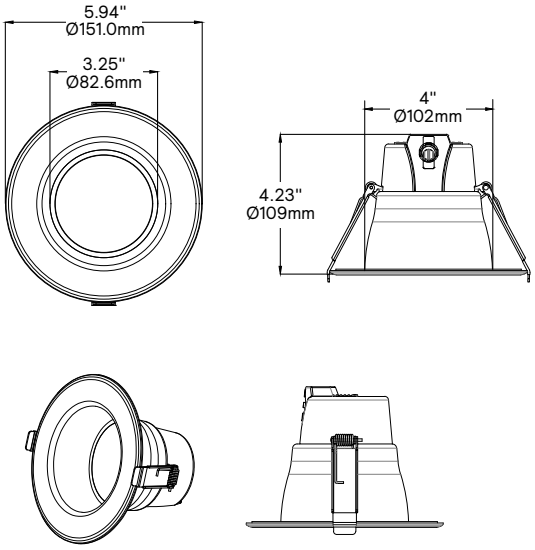
	Frame Aperture Range	
Series	**Minimum**	**Maximum**
4" Comm Retrofit	Ø4.0'' (Ø102mm)	Ø5.1'' (Ø130mm)
6" Comm Retrofit	Ø6.3'' (Ø159mm)	Ø7.5'' (Ø190mm)
8" Comm Retrofit	Ø7.9'' (Ø200mm)	Ø9.4'' (Ø240mm)
9.5" Comm Retrofit	Ø9.0'' (Ø229mm)	Ø10.6'' (Ø270mm)

LED Commercial Retrofit Downlight DualSelect

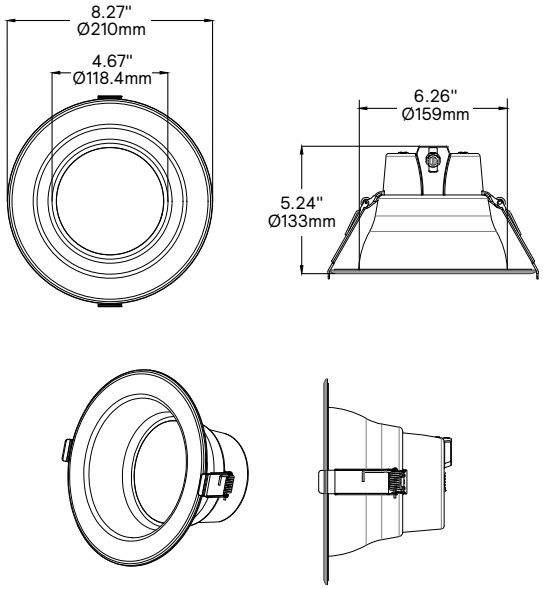
4", 6", 8" & 10" round aperture

Dimensions

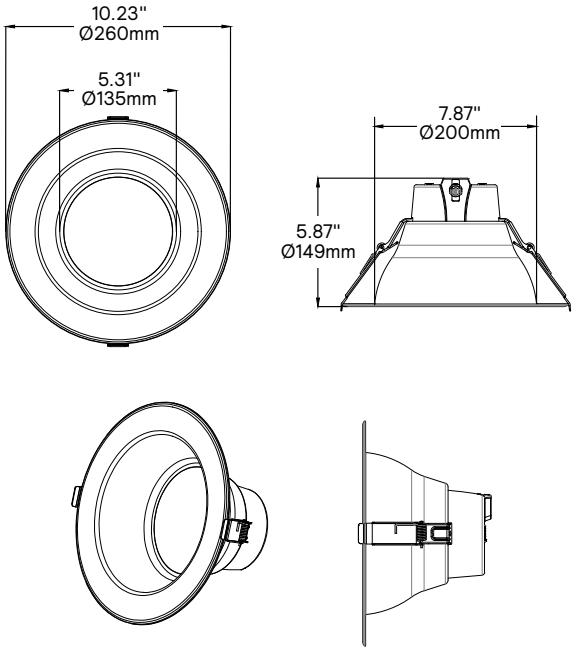
Retrofit downlight 4"



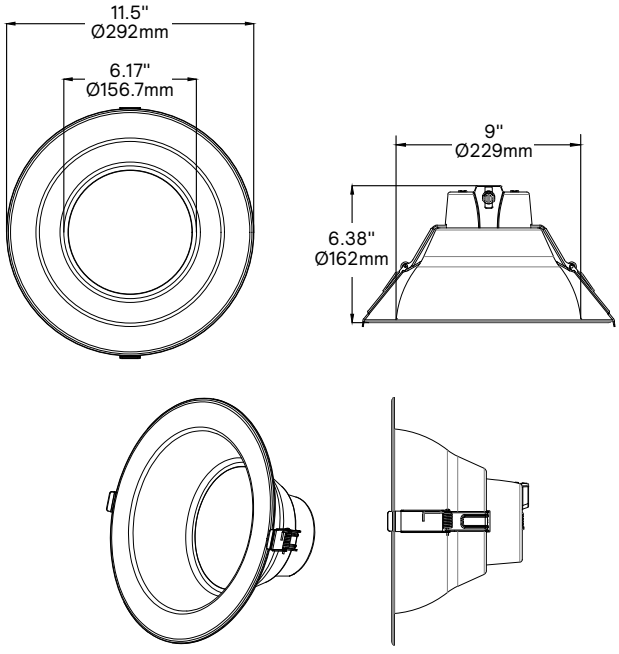
Retrofit downlight 6"



Retrofit downlight 8"



Retrofit downlight 10"



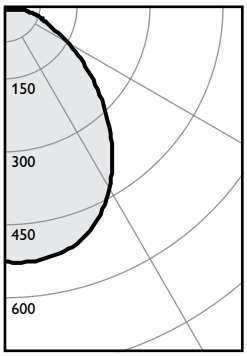
LED Commercial Retrofit Downlight DualSelect

4", 6", 8" & 10" round aperture

Photometry

4-inch LED, 1000lm, 90CRI, 3000K

Candela Curve



Angle	Mean CP	Lumens
0	523	
5	510	48
10	501	
15	487	137
20	461	
25	425	195
30	382	
35	333	208
40	282	
45	238	178
50	181	
55	135	121
60	96	
65	66	67
70	50	
75	34	36
80	21	
85	8	9
90	0	

CR4RLMCCT

Output lumens:	1000 lm	Efficacy:	83.0 lm/w
Spacing Criterion:	1.14	CCT[3]:	3000 K
Input Watts[2]:	12.0 W	CRI:	90 min

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	21	5.7'
6'	14	6.8'
7'	10	8.0'
8'	8	9.1'
9'	6	10.3'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	40.0	0.53
6'	26.0	0.35
7'	19.0	0.25
8'	16.0	0.21
9'	13.0	0.17

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	111	107	103	100	104	98	100	95	96	92	87
2	102	95	89	84	93	83	90	81	87	80	76
3	94	85	78	72	84	72	81	71	78	69	66
4	87	77	69	63	75	63	73	62	71	61	58
5	81	70	62	56	68	55	66	55	65	54	52
6	75	63	55	50	62	49	61	49	59	49	46
7	70	58	50	44	57	44	56	44	54	44	42
8	66	53	46	40	53	40	51	40	50	40	38
9	62	49	42	37	49	37	48	36	47	36	34
10	58	46	38	34	45	34	44	33	43	33	31

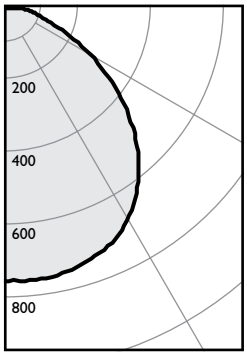
Room Cavity Ratio

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	381	38.1%
0-40	589	58.9%
0-60	887	88.7%
0-90	1000	100.0%

6-inch LED, 1500lm, 90CRI, 3000K

Candela Curve



Angle	Mean CP	Lumens
0	736	
5	733	70
10	721	
15	701	197
20	674	
25	633	288
30	580	
35	515	
40	444	316
45	369	
50	293	
55	220	278
60	154	
65	98	191
70	64	
75	48	95
80	32	
85	16	16
90	0	

CR6RLMCCT

Output lumens:	1500 lm	Efficacy:	83.0 lm/w
Spacing Criterion:	1.14	CCT[3]:	3000 K
Input Watts[2]:	12.0 W	CRI:	90 min

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	21	5.7'
6'	14	6.8'
7'	10	8.0'
8'	8	9.1'
9'	6	10.3'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	40.0	0.53
6'	26.0	0.35
7'	19.0	0.25
8'	16.0	0.21
9'	13.0	0.17

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	111	107	103	100	104	98	100	95	96	92	87
2	102	95	89	84	93	83	90	81	87	80	76
3	94	85	78	72	84	72	81	71	78	69	66
4	87	77	69	63	75	63	73	62	71	61	58
5	81	70	62	56	68	55	66	55	65	54	52
6	75	63	55	50	62	49	61	49	59	49	46
7	70	58	50	44	57	44	56	44	54	44	42
8	66	53	46	40	53	40	51	40	50	40	38
9	62	49	42	37	49	37	48	36	47	36	34
10	58	46	38	34	45	34	44	33	43	33	31

Room Cavity Ratio

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	381	38.1%
0-40	589	58.9%
0-60	887	88.7%
0-90	1000	100.0%

1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

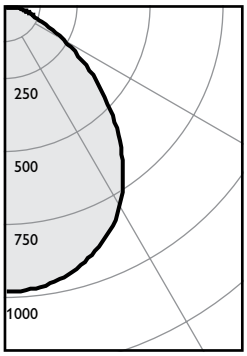
LED Commercial Retrofit Downlight DualSelect

4", 6", 8" & 10" round aperture

Photometry – continued

8-inch LED, 2000lm, 90CRI, 3000K

Candela Curve



Angle	Mean CP	Lumens
0	977	
5	972	92
10	957	
15	930	261
20	893	
25	845	386
30	777	
35	692	429
40	596	
45	492	376
50	386	
55	295	254
60	192	
65	116	121
70	57	
75	60	60
80	38	
85	20	21
90	0	

CR8RLMCCT

Output lumens:	2000 lm	Efficacy:	90.9 lm/w
Spacing Criterion:	1.2	CCT[3]:	3000K
Input Watts[2]:	22.0 W	CRI:	90min

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	39	6.0'
6'	27	7.2'
7'	20	8.4'
8'	15	9.6'
9'	12	10.8'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data – RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	67.0	0.98
6'	44.0	0.64
7'	32.0	0.46
8'	26.0	0.38
9'	20.0	0.30

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method – Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	111	107	103	100	104	98	100	95	96	92	87
2	102	95	89	84	93	83	90	81	87	80	76
3	94	85	78	72	84	72	81	71	78	69	66
4	87	77	69	63	75	63	73	62	71	61	58
5	81	70	62	56	68	55	66	55	65	54	52
6	75	63	55	50	62	49	61	49	59	49	46
7	70	58	50	44	57	44	56	44	54	44	42
8	66	53	46	40	53	40	51	40	50	40	38
9	62	49	42	37	49	37	48	36	47	36	34
10	58	46	38	34	45	34	44	33	43	33	31

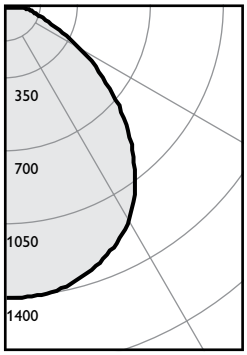
Room Cavity Ratio

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	740	37.0%
0-40	1169	58.5%
0-60	1799	90.0%
0-90	2000	100.0%

9.5-inch LED, 3000lm, 90CRI, 3000K

Candela Curve



Angle	Mean CP	Lumens
0	1442	
5	1436	136
10	1409	
15	1370	386
20	1317	
25	1250	573
30	1156	
35	1034	643
40	894	
45	742	572
50	584	
55	431	391
60	290	
65	173	182
70	107	
75	81	87
80	55	
85	29	30
90	0	

CR10RLMCCT

Output lumens:	3000 lm	Efficacy:	93.8 lm/w
Spacing Criterion:	1.2	CCT[3]:	3000K
Input Watts[2]:	32.0 W	CRI:	90min

Single unit data

Height to Lighted Plane	Initial center beam foot-candles	Beam dia. (ft)*
5'	58	6.0'
6'	40	7.2'
7'	29	8.4'
8'	23	9.6'
9'	18	10.8'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data – RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq.ft.
5'	94.0	1.42
6'	62.0	0.93
7'	44.0	0.66
8'	37.0	0.55
9'	29.0	0.44

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method – Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	111	107	103	100	104	98	100	95	96	92	88
2	102	95	89	84	93	83	90	81	87	80	76
3	94	85	78	72	84	72	81	71	78	69	66
4	87	77	69	63	75	63	73	62	71	61	58
5	81	70	62	56	68	55	66	55	65	54	52
6	75	63	55	50	62	49	61	49	59	49	46
7	70	58	50	44	57	44	56	44	54	44	42
8	66	53	46	40	53	40	51	40	50	40	38
9	62	49	42	37	49	37	48	36	47	36	34
10	58	46	38	34	45	34	44	33	43	33	31

Room Cavity Ratio

Zonal lumens & percentages

Zone	Lumens	%Luminaire
0-30	1095	36.5%
0-40	1738	57.9%
0-60	2701	90.0%
0-90	3000	100.0%

1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

Signify North America Corporation
200 Franklin Square Drive,
Somerset, NJ 08873
Telephone 855-486-2216

Signify Canada Ltd.
281 Hillmount Road,
Markham, ON, Canada L6C 2S3
Telephone 800-668-9008

Lumecon
WORKMEN SERIES

LWS-RCS
LED Recessed Canopy Soffit

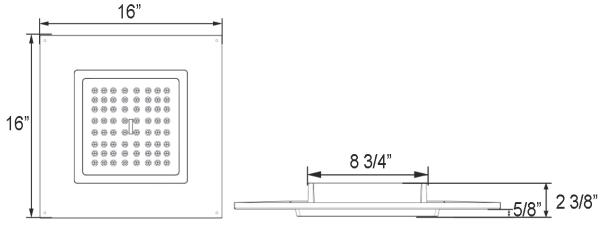
Catalog Number:	
Project:	
Comments:	
Prepared By:	Date:

Description

The LWS-RCS Recessed Canopy/Soffit Replacement is available with an optical distribution designed to replace HID lighting systems up to 250w MH or HPS. The low profile housing is designed to replace existing recessed canopy lights up to 12” round or square, and can be used in new construction. Typical applications include covered entryways and soffits in retail centers, schools and universities, office buildings and medical facilities. Mounting heights of 12 to 16 feet can be used based on light level and uniformity requirements.

Dimensions & Weights

Model	Width	Length	Height
LWS-RCS	16”	16”	2 3/8”



Technical Specifications

HOUSING: Die Cast Aluminum Driver Compartment with Formed Steel Plate.

LENS: Molded UV-Stabilized Acrylic Optical Lens.

MOUNTING: Recessed mount

FINISH: White Powdercoat Finish Over a Chromate Conversion Coating. Custom Colors Available Upon Request.

COLOR TEMPERATURE: 3000K, 4000K, and 5000K.

LED LIFETIME: All LEDs are rated for a minimum of 100,000 hours of continuous operation at ambient outdoor temperatures from -40°F/-40°C to 115°F/46°C.

COLOR RENDERING INDEX (CRI): 80.

DIMMING: 0-10V standard dimming capability.

SURGE SUPPRESSION: 2kV

DRIVER: Electronic Driver, 120-277V, 50/60Hz; 347V, 50/60Hz (30 & 37w Model Only); or 347-480V, 50/60Hz (30 & 37w Model Only) Less Than 20% THD and PF>0.90. Standard Internal Surge Protection 6kV. 0-10V Dimming Standard for a Dimming Range of 100% to 10%; Dimming Source Current is 150 Microamps.

CERTIFICATION DATA: CSA: Listed for Wet Locations, ANSI/UL 1598, 8750; IP54 Sealed LED Compartment

BUY AMERICAN: The product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS, and DOT regulations.

WARRANTY: 5-Year Warranty for -40°C to +50°C Environment.

Email: sales@lumecon.com Website: www.lumecon.com Phone: 248-477-5009

Lumecon
WORKMEN SERIES

LWS-RCS
LED Recessed Canopy Soffit

Ordering Information

LWS-RCS – Options / Ordering Example: LWS-RCS-F-1x30-U-3K-W-SF

Model	Optics	Wattage	Driver	Color Temperature	Color	Options
LWS-RCS	F - Type V	1X30 - 30w (3K,4K Only)	U - 120-277V	3K - 3000K	W - White	SF - Single Fuse*
		1X37 - 37w (4K Only)	C - 347V*	4K - 4000K	CC - Custom	DF - Double Fuse*
		1X48 - 48w (4K, 5K Only)	H - 347-480V*	5K - 5000K		SP - Surge Protection
		1X65 - 65w (4K Only)				BU - Battery Backup, 90 minutes*
			30 & 37W only			BUC - Cold Start Battery Backup, -20°C, 90 Minutes*
						120-277V Models Only

Performance Data

				3000K					4000K					5000K				
LED Board Watts	Drive Current (mA)	Input Watts	Optics	Lumens	Efficacy	B	U	G	Lumens	Efficacy	B	U	G	Lumens	Efficacy	B	U	G
30W	525	34	Type V	4,590	135	2	1	1	4,776	141	2	1	1	-	-	-	-	-
37W		43		-	-	-	-	-	5,890	137	2	1	1	-	-	-	-	-
48W		55		-	-	-	-	-	7,642	139	3	1	1	7,939	144	3	1	1
65W		75		-	-	-	-	-	10,348	138	3	1	1	-	-	-	-	-

Projected Lumen Maintenance

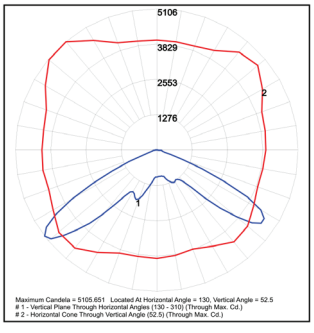
Projected per IESNA TM-21-11. Data references the extrapolated performance projections for the 525mA base model in a 25°C ambient, based on 10,000 hours of LED testing per IESNA LM-80-08.

Compare to MH box indicates suggested Light Loss Factor (LLF) to be used when comparing to Metal Halide (MH) systems.

Data shown for 5000 CT TM-21-11	Input Watts	Initial	Compare to MH 25,000 Hrs	50,000 Hrs	100,000 Hrs	Calculated LED Life
L70 Lumen Maintenance @ 25°C / 77°F	All wattages up to and including 55w	1.00	0.97	0.86	0.86	219,000
L70 Lumen Maintenance @ 50°C / 122°F		1.00	0.96	0.82	0.82	114,000
L80 Lumen Maintenance @ 40°C / 104°F		1.00	0.95	0.78	0.78	93,000

Photometric Data

LWS-RCS-F-1x65-U-4K
Type V



Email: sales@lumecon.com Website: www.lumecon.com Phone: 248-477-5009

PHILIPS

LED lamps

InstantFit (Type-C)

Type C InstantFit LED Tubes

Philips TLED InstantFit Type-C lamps are created by pairing our InstantFit Type-A lamps with our dedicated TLED drivers. The InstantFit LED lamps provide hassle-free installation with simple lamp-for-lamp replacements. They deliver what we promise, with at least 40% energy savings, flicker-free performance, and the life you would expect.

Benefits

- **No visible flicker**
  All InstantFit lamps are below 1.0 SVM
- **Driver Usage**
  A variety of drivers enable optimizing the light output and wattage consumption for each application - bit.ly/TLEDdrivers
- **Shatter prevention**
  Shatter prevention: Our polycarbonate lamps prevent breakage, not just contain shattered glass
- **Light quality and performance predictability**
  Consistent light output and no flicker means delighted customers.

Features

- **Flexibility**
  Type A lamps can be used as type C lamps
- **Dimmability**
  Certain lamp driver combinations are dimmable
- **Compatibility**
  Each lamp is compatible with several drivers.
- **Lifetime delivered**
  Average life rating of 50,000 hours, with up to 70,000 hours[1]
- **Detailed guide**
  Type C product selection guide available upon request
- **Proven product history**
  From a company with a long history of innovation and reliability in the lighting industry

1. LED lifetime means the length of time (in hours) until half of the LED light sources maintain at least 70% of their initial lumen output (B50, L70).

Philips LED InstantFit Type-C lamps

Type C **InstantFit**

Most efficient solution
Rebate driven

Compatible lamp types:

- Many Philips Type A lamps can be paired with our dedicated Advance TLED Drivers to form Type C Systems
- Prevents "Snap-back" of conventional lamps and enables rebates
- A variety of drivers enable optimizing the light output and wattage consumption for each application

CorePro

50,000 hours

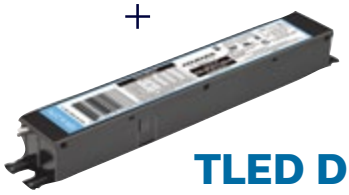
OR

MasterClass

70,000 hours

Shatter prevention

+



TLED Driver

Ordering, electrical and technical data (Subject to change without notice)

G13

Product No. (6nc)	Model No. (12nc)	Description	Base	Watts (W)	Lumens (lm)	CRI (min)	CCT (K)	Lifetime[1] (hrs)
2FT - T8 MasterClass								
541813	9290019869	7T8/MAS/24-830/IF10/P10/1	G13	7	1050	82	3000	70,000
541821	9290019870	7T8/MAS/24-835/IF10/P10/1	G13	7	1050	82	3500	70,000
541839	9290019871	7T8/MAS/24-840/IF11/P10/1	G13	7	1150	82	4000	70,000
541847	9290019872	7T8/MAS/24-850/IF11/P10/1	G13	7	1150	82	5000	70,000
3FT - T8 MasterClass								
539858	9290019675	8.5T8/MAS/36-830/IF13/P10/1	G13	8.5	1300	82	3000	70,000
539866	9290019679	8.5T8/MAS/36-835/IF13/P10/1	G13	8.5	1300	82	3500	70,000
539874	9290019676	8.5T8/MAS/36-840/IF14/P10/1	G13	8.5	1300	82	4000	70,000
539882	9290019677	8.5T8/MAS/36-850/IF14/P10/1	G13	8.5	1400	82	5000	70,000
4FT - T8 Energy Advantage MasterClass								
565580	9290030253	8.9T8/MAS/48-830/IF15/P/DIM 10/1	G13	8.9	1500	82	3000	70,000
565598	9290030254	8.9T8/MAS/48-835/IF15/P/DIM 10/1	G13	8.9	1500	82	3500	70,000
565606	9290030255	8.9T8/MAS/48-840/IF16/P/DIM 10/1	G13	8.9	1600	82	4000	70,000
565614	9290030256	8.9T8/MAS/48-850/IF16/P/DIM 10/1	G13	8.9	1600	82	5000	70,000
4FT - T8 CorePro								
553214	9290022527A	10T8/COR/48-830/IF15/G10/1	G13	10	1800	82	3000	50,000
553222	9290022528A	10T8/COR/48-835/IF15/G10/1	G13	10	1800	82	3500	50,000
553230	9290019917A	10T8/COR/48-840/IF16/G10/1	G13	10	1700	82	4000	50,000
553248	9290019918	10T8/COR/48-850/IF16/G10/1	G13	10	1700	82	5000	50,000
4FT - T8 High Output MasterClass								
469635	9290011588C	13T8/MAS/48-830/IF20/P/DIM10/1	G13	14	2100	82	5000	70,000
473926	9290013976B	13T8/MAS/48-835/IF20/P/DIM10/1	G13	13	2000	82	3000	70,000
473934	9290013977B	13T8/MAS/48-840/IF21/P/DIM10/1	G13	13	2000	82	3500	70,000
473942	9290013978B	13T8/MAS/48-850/IF21/P/DIM10/1	G13	13	2100	82	4000	70,000
4FT - T8 High Output CorePro								
470096	9290013430	14T8/PRO/48-830/IF20/G10/1FB	G13	14	2000	82	3000	50,000
470104	9290013431	14T8/PRO/48-835/IF20/G10/1FB	G13	14	2000	82	3500	50,000
470112	9290013432	14T8/PRO/48-840/IF21/G10/1FB	G13	14	2100	82	4000	50,000
470120	9290013433	14T8/PRO/48-850/IF21/G10/1FB	G13	14	2100	82	5000	50,000

1. Tested to B50 L70 requirement. LED lifetime means the length of time (in hours) until half of the LED light sources maintain at least 70% of their initial lumen output (B50, L70).

Philips LED InstantFit Type-C lamps

Ordering, electrical and technical data (Subject to change without notice)

G13

Product No. (6nc)	Model No. (12nc)	Description	Base	Watts (W)	Lumens (lm)	CRI (min)	CCT (K)	Lifetime[1] (hrs)
4FT - T8 Ultra High Output MasterClass								
545178	9290020162	15.5T8/MAS/48-830/IF23/P25/1	G13	15.5	2400	82	3000	70,000
533372	9002016304	15.5T8/MAS/48-835/IF24/P25/1	G13	15.5	2400	82	3500	70,000
545194	9002016404	15.5T8/MAS/48-840/IF25/P25/1	G13	15.5	2500	82	4000	70,000
545200	9002016504	15.5T8/MAS/48-850/IF25/P25/1	G13	15.5	2500	82	5000	70,000
8FT - T8 Slimline CorePro								
533000	9290018971	30T8/PER/96-830/IF42/P/FA810/1	G13	30	4200	82	3000	50,000
533018	9290018972	30T8/PER/96-835/IF42/P/FA810/1	G13	30	4200	82	3500	50,000
533026	9290018973	30T8/PER/96-840/IF42/P/FA810/1	G13	30	4200	82	4000	50,000
533034	9290018974	30T8/PER/96-850/IF42/P/FA810/1	G13	30	4200	82	5000	50,000
U-Bend - T8 High Output MasterClass								
541854	9290019874	13T8-6U/MAS/24-830/IF20/P10/1	G13	13	2000	82	3000	70,000
541862	9290019875	13T8-6U/MAS/24-835/IF20/P10/1	G13	13	2000	82	3500	70,000
541870	9290019876	13T8-6U/MAS/24-840/IF21/P10/1	G13	13	2100	82	4000	70,000
541888	9290019877	13T8-6U/MAS/24-850/IF21/P10/1	G13	13	2100	82	5000	70,000

Compatible Drivers (Subject to change without notice)

2FT Lamps	Compatible Drivers
MasterClass InstantFit T8	
541813	ICN-2P15-TLED-N
541821	ICN-2P16-TLED-HL-N
541839	ICN-3P15-TLED-N
541847	ICN-4P15-TLED-N
	ICN-4P16-TLED-N
	ICN-2P16-TLED-EL-N
	ICN-2P16-TLED-N
	ICN-3P16-TLED-N
	ICN-4P16-TLED-HL-SC
	IZT-2P16-TLED-SC*

3FT Lamps	Compatible Drivers
MasterClass InstantFit T8	
539858	ICN-2P15-TLED-N
539866	ICN-2P16-TLED-HL-N
539874	ICN-3P15-TLED-N
539882	ICN-4P15-TLED-N
	ICN-4P16-TLED-N
	IZT-4P16-TLED-SC*
	ICN-2P16-TLED-EL-N
	ICN-2P16-TLED-N
	ICN-3P16-TLED-N
	ICN-4P16-TLED-HL-SC
	IZT-2P16-TLED-SC*

4FT Lamps	Compatible Drivers
CorePro InstantFit HO T8 (2100 lm) CorePro InstantFit T8 (1600 lm)	
553214	ICN-2P16-TLED-EL-N
553222	ICN-2P16-TLED-N
553230	ICN-4P16-TLED-HL-SC
553248	IZT-2P16-TLED-SC*
470096	ICN-2P16-TLED-HL-N
470104	ICN-3P16-TLED-N
470112	ICN-4P16-TLED-N
470120	

4FT Lamps	Compatible Drivers
MasterClass InstantFit HO T8 (2100 lm)	
469635	ICN-2P13-TLED-N
473926	ICN-2P16-TLED-HL-N
473934	ICN-3P13-TLED-N
473942	ICN-4P13-TLED-N
	ICN-4P16-TLED-N
	IZT-4P16-TLED-SC*
	ICN-2P16-TLED-EL-N
	ICN-2P16-TLED-N
	ICN-3P16-TLED-N
	ICN-4P16-TLED-HL-SC
	IZT-2P16-TLED-SC*

4FT Lamps	Compatible Drivers
MasterClass InstantFit T8 (1600 lm)	
565580	ICN-2P16-TLED-EL-N
565598	ICN-2P16-TLED-N
565606	ICN-4P16-TLED-HL-SC
565614	IZT-2P16-TLED-SC*
	ICN-2P16-TLED-HL-N
	ICN-3P16-TLED-N
	ICN-4P16-TLED-N
	IZT-4P16-TLED-SC*

4FT Lamps	Compatible Drivers
MasterClass InstantFit UHO T8 (2500 lm)	
545178	ICN-2P15-TLED-N
533372	ICN-2P16-TLED-N
545194	ICN-3P16-TLED-N
545200	ICN-4P16-TLED-HL-SC
	IZT-2P16-TLED-SC*
	ICN-2P16-TLED-EL-N
	ICN-3P15-TLED-N
	ICN-4P15-TLED-N
	ICN-4P16-TLED-N
	IZT-4P16-TLED-SC*

8FT Lamps	Compatible Drivers
CorePro InstantFit T8 (4200 lm)	
533000	ICN-2P35-TLED-N
533018	
533026	
533034	

8FT Lamps	Compatible Drivers
MasterClass InstantFit T8 (4200 lm)	
469247	ICN-2P35-TLED-N
469254	

MasterClass InstantFit T5HO (3500 lm)	
467126	ICN-2S24-TLED-90C-N
467134	ICN-2S24-TLED-90C-N 2L
467142	ICN-4S24-TLED-90C-2LS-G 4L
467159	ICN-4S24-TLED-90C-2LS-G3L x 2
	ICN-2S24-TLED-90C-N 1L
	ICN-4S24-TLED-90C-2LS-G 3L
	ICN-4S24-TLED-90C-2LS-G

U-Bend MasterClass InstantFit HO T8 (2100 lm)	
541854	ICN-2P13-TLED-N
541862	ICN-2P16-TLED-EL-N
541870	IZT-2P16-TLED-SC*
541888	ICN-2P15-TLED-N
	ICN-2P16-TLED-HL-N

Most combinations are DLC listed (QPL listings are included in model numbers and drivers).
Most combinations work in N and N-1 configurations.

1. Tested to B50 L70 requirement. LED lifetime means the length of time (in hours) until half of the LED light sources maintain at least 70% of their initial lumen output (B50, L70).

* Dimmable driver.

c UL us LISTED · RoHS COMPLIANT · DLC QPL LISTED · ENERGY STAR

PLt-20029BN 08/21 philips.com/lighting

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DALS LIGHTING

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80, de la Seigneurie blvd., E.
Blainville, Quebec J7C 4N1

U.S.A.
4383, NW 124th Ave.,
Coral Springs, Florida 33065

877.430.1818
info@dals.com
dals.com

MODEL **CFLEDSQ14-CC**

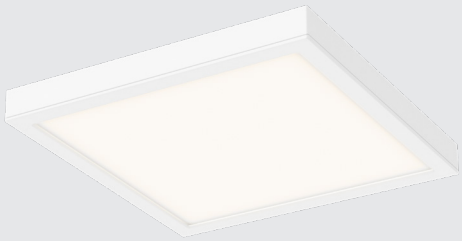
NAME **DELTA SERIES**

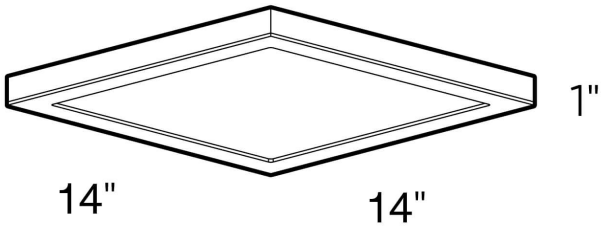
14" Square Flush Mount

Our LED flush mounts incorporate edge-lit technology, eliminating hot spots and glare. Can be installed indoors or out and icludes five switch-selectable CCT settings.

PROJECT:	**TYPE:**
DATE:	**QTY:**

NOTES:



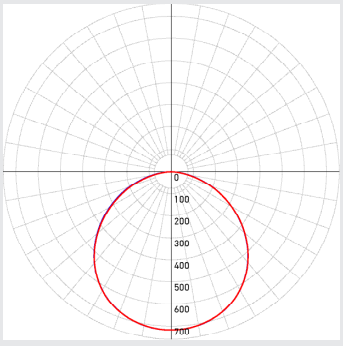


QUICK SPECS

SIZE	WATTS	DELIVERED LUMENS*	COLOR °T 5CCT	CRI	VOLTAGE	BEAM ANGLE	LIGHT DIRECTION	FINISH
14"	26W	1600lm	2700K 3000K 3500K 4000K 5000K	90	120V	110°	Straight	○ White ● Black ○ Satin nickel

*Lumen output measured at 3000K

LIGHT DISTRIBUTION



CONSTRUCTION

Lens
Frosted

Lens material
PC

Finish type
Paint (BK, WH)
Electroplate (SN)

Housing material
Cast aluminum

Type of LED
Edge lit SMD

Mounting
Twist bracket

RATINGS

Placement
Indoor/outdoor

Location
Wet (Covered ceiling mounted only)

Lifespan
50,000 hrs.

Certifications
ETL, JA8, FCC, ES

IP rating
IP44

Operating temperature
-20° to 40° C

WHAT'S IN THE BOX

LED flush mount fixture
Mounting bracket
Mounting hardware
Wire nuts
Instruction sheet

ACCESSORIES

-

ADAPTERS

-

Canada
80, de la Seigneurie blvd., E.
Blainville, Quebec J7C 4N1

U.S.A.
4383, NW 124th Ave.,
Coral Springs, Florida 33065

877.430.1818
info@dals.com
dals.com

ELECTRICAL DETAILS

Input voltage
108-120V

Output current
206mA

Power factor
90%

Driver type
Constant current

Output voltage
126V

LED model #
2835

THD harmonic distortion
<30%

Binning type
3 SDCM

FEATURES

- Integrated dimmable driver
- Smooth 360° wide spread
- Switch-selectable CCT: 2700K/ 3000 K/ 3500 K/ 4000 K/ 5000 K
- Superior LED performance and lifespan
- Minimal heat emission
- Edge-lit technology

WARRANTY

DALS offers a 5-year warranty from the date of purchase which covers repairs or replacement of defective parts of the housing, optics, and electronics. To contact DALS customer service call 1-877-430-1818 or send an e-mail to info@dals.com.

RECOMMENDED DIMMER LIST*

BRAND	MODEL #	DIMMER SPECS	GRADE	DIMMING RANGE (%) MIN	DIMMING RANGE (%) MAX	MAX LOAD
Dals	SM-DIMSW Smart Dimmer	Triac, 250W LED/CFL	Compatible	0	100	10
Lutron	DVELV-300P-WH	300W electronic low voltage dimmer	Compatible	0	72	12
Lutron	MA-PRO-WH	ELV, 250W LED/CFL	Compatible	0	93	10
Lutron	Caseta PD-5NE-WH-C	ELV, LED—up to 250 W	Compatible	0	98	10
Lutron	Caseta	Triac, LED—up to 250 W	Compatible	0	88	10
Leviton	6674	Triac, 150 W Dimmable CFL/LED	Compatible	0	100	6
Leviton	IPL06-10Z	Triac, 150 W Dimmable CFL/LED	Compatible	0	100	6
Leviton	DSL06-752	Triac, 150 W Dimmable CFL/LED	Compatible	0	99	6
Leviton	D26HD-742-1RW	Triac, 300W LED/CFL	Compatible	0	100	12
Control 4	C4-APD120-WH	ELV, 120W LED	Compatible	0	100	5
Control 4	C4-FPD120-WH	Triac, 200W LED	Compatible	0	99	8

* Minimal buzzing noise may occur with some dimmers

EvoKit Click 2x2

EvoKit CLKE 2x2 32L 24W 835 UNV SWZCS P1

The Philips EvoKit LED Retrofit Kits are an energy efficient, easy to install solution to upgrade your fluorescent troffers to LED. Compatible with both standard and narrow T-grids, they offer a simple retrofit that will improve the look of your ceiling with its architectural styling without the need to actually break the ceiling plenum. The units also come standard with dimming capabilities, making them perfect for applications such as offices, classrooms, healthcare facilities, retail space and more. The Philips EvoKit LED Retrofit Kits offer the latest advances in LED technology, resulting in quality lighting with extremely high efficacies of up to 145 lm/w. The 1'x4', 2'x2' and the 2'x4' EvoKit are manufactured with quality components and finishes, meaning a consistent, balanced lighting scheme when using both configurations in the same space. The main diffuser and slanted troffer help reduce glare and create a pleasant, uniform throw of the light. Combine the aesthetics and quality with the ease of installation, and this product can literally transform your space in minutes!

Product data

General Information	
Lighting Technology	LED
Mounting	Recessed
Adapter	EvoKit CLKE 2x2 32L 24W 835 UNV SWZCS P1
Number Of Pieces	1

Light Technical	
Luminous Flux	3,200 lm
Correlated Color Temperature (Nom)	3500 K
Luminous Efficacy (rated) (Nom)	133 lm/W
Color rendering index (CRI)	80

Operating and Electrical	
Power Consumption	24 W
Voltages	120/277 V

Mechanical and Housing	
Fixture Size	2 ft x 2 ft
Enclosure	Metal and Plastic
Net Weight (Piece)	6.365 lb

Product Data	
Order product name	EvoKit CLKE 2x2 32L 24W 835 UNV SWZCS P1
Full product name	EvoKit CLKE 2x2 32L 24W 835 UNV SWZCS P1
Order code	EvoKit CLKE 2x2 32L 24W 835 UNV SWZCS P1
Material Nr. (12NC)	929002734013
Numerator - Quantity Per Pack	1
EAN/UPC - Product/Case	781087167816

EvoKit Click 2x2

Numerator - Packs per outer box	1
EAN/UPC - Case	50781087167811

PHILIPS

LED lamps

DC-Fit (Type C System)

DO NOT USE

Pro[illegible]men outputs using our CertaDrive X & Xitanium drivers.

Type C DC-Fit LED lamp system

The Philips Type C DC-Fit LED lamp system is a technology breakthrough from our LED tube portfolio. The lamp provides versatility by delivering two different lumen outputs, depending on the driver used (CertaDrive X & Xitanium). The systems deliver what we promise, with at least 50% energy savings, flicker-free performance and the performance that you would expect.

Benefits

- **Flexibility**
  One lamp will provide 2 lumen output (depending on the driver used) to simplify options for the customer:
  - T8 lamp will operate as 1600 lumen, 10-watt lamp or 2100 lumen, 14-watt lamp
  - T5 lamp will operate as 2100 lumen, 14-watt lamp or 3500 lumen, 25-watt lamp
- **Rebate eligible**
  Due to being DLC5.1 listed and preventing “snap-back” of traditional fluorescent lamp on LED drivers.
- **Light quality and performance predictability**
  Consistent light output and no flicker means delighted customers.
- **Energy savings**
  At least 50% energy savings when replacing T5 standard fluorescent system and 56% energy savings when replacing T8 fluorescent system.

Features

- **Lifetime Delivered**
  Average life rating of 70,000 hours for T8 lamps; 50,000 hours for T5 lamps.
- **Dimmability**
  Lamps are operated with LED drivers that are dimmable to enable more energy savings for the end user.
- **Proven product history**
  From a company with a long history of innovation and reliability in the lighting industry.
- **Safety**
  Over voltage and over temperature protection built into the lamp and complies with UL safety requirements.

Philips Type C DC Fit lamps

Ordering, electrical and technical data (Subject to change without notice)

Product (6nc)	Product (12nc)	Lamp description	Bulb	Base	Watts (W)	Lumen (lm)	CRI	CCT	Lifetime[1] (hrs)
5339[illegible]	9290[illegible]515	[illegible]/COR/46-[illegible]0/DF[illegible]/[illegible]DIM[illegible]C 25/1	T5	G5	14 / 2[illegible]	2100 / [illegible]00	80	40[illegible]	50000
5339[illegible]	929003[illegible]	4T5/COR/46-[illegible]50/DF[illegible]/[illegible]DIM U[illegible]	T5	G5	14 / 25	[illegible]3500	[illegible]	5[illegible]	[illegible]000
533988	9290036517	10T8/COR/48-840/DF16/G/DIM UL-C 25/1	T8	G13	10 / 14	1600 / 2100	80	4000	70000
533996	9290036518	10T8/COR/48-850/DF16/G/DIM UL-C 25/1	T8	G13	10 / 14	1600 / 2100	80	5000	70000

Model (12nc)	CertaDrive X description	Advance driver model
929002721913	22W, 400/450mA, 48V, 120-277V	CI022C045V048CDX1M
929001791513	26W, 500/550mA, 48V, 120-277V	CI026C055V048CDX1M
929001799413	31W, 625/640mA, 48V, 120-277V	CI031C064V048CDX1M
929002722513	32W, 600/650mA, 48V, 120-277V	CI032C065V048CDX1M

Model (12nc)	CertaDrive X description	Driver
929001791813	45W, 900/935mA, 48V, 120-277V	CI045C093V048CDX1M
929002710813	65W, 1225/1350mA, 48V, 120-277V	CI065C135V048CDX1M
929002710713	55W, 1035/1150mA, 48V, 120-277V	CI055C115V048CDX1M

Lumen output

Model (12nc)	CertaDrive X description	Advance driver model	T8 Lamp (lumen output) 2-lamp	T8 Lamp (lumen output) 3-lamp	T8 Lamp (lumen output) 4-lamp	T5 Lamp (lumen output) 1-lamp	T5 Lamp (lumen output) 2-lamp	T5 Lamp (lumen output) 3-lamp	T5 Lamp (lumen output) 4-lamp
929002721913	22W 400/450 mA 48V 120-277V	CI022C045V048CDX1M	1600lms						
929001791513	26W 500/550 mA 48V 120-277V	CI026C055V048CDX1M				3500lms			
929001799413	31W 625/640 mA 48V 120-277V	CI031C064V048CDX1M	2100lms				2100lms		
929002722513	32W 600/650 mA 48V 120-277V	CI032C065V048CDX1M		1600lms					
929001791813	45W 900/935 mA 48V 120-277V	CI045C093V048CDX1M		2100lms	1600lms			2100lms	
929002710813	65W 1225/1350mA 48V120-277V	CI065C135V048CDX1M			2100lms				2100lms
929002710713	55W 1035/1150 mA 48V120-277V	CI055C115V048CDX1M					3500lms		

Model (12nc)	CertaDrive X description	Advance driver model	T8 Lamp (lumen output) 2-lamp	T8 Lamp (lumen output) 3-lamp	T8 Lamp (lumen output) 4-lamp	T5 Lamp (lumen output) 1-lamp	T5 Lamp (lumen output) 2-lamp	T5 Lamp (lumen output) 3-lamp	T5 Lamp (lumen output) 4-lamp
929002721913	22W 400/450 mA 48V 120-277V	CI022C045V048CDX1M	22.5W						
929001791513	26W 500/550 mA 48V 120-277V	CI026C055V048CDX1M				27.5W			
929001799413	31W 625/640 mA 48V 120-277V	CI031C064V048CDX1M	31.5W				31.0W		
929002722513	32W 600/650 mA 48V 120-277V	CI032C065V048CDX1M		33.5W					
929001791813	45W 900/935 mA 48V 120-277V	CI045C093V048CDX1M		44.5W	43.5W			43.5W	
929002710813	65W 1225/1350mA 48V120-277V	CI065C135V048CDX1M			57.5W				64.0W
929002710713	55W 1035/1150 mA 48V120-277V	CI055C115V048CDX1M					54.5W		

1. Tested to B50 L70 requirement. LED lifetime means the length of time (in hours) until half of the LED light sources maintain at least 70% of their initial lumen output (B50, L70).

DLC listing

Model (12nc)	Lamp description	T5 HE 2100 lm/lamp 2-lamp CI031C064V048CDX1M	T5 HE 2100 lm/lamp 3-lamp CI045C093V048CDX1M	T5 HE 2100 lm/lamp 4-lamp CI065C135V048CDX1M	T5 HO 3500 lm/lamp 1-lamp CI026C055V048CDX1M	T5 HO 3500 lm/lamp 2-lamp CI055C115V048CDX1M
9290036515	14T5/COR/46-840/DF21/G/DIM UL-C 25/1	S-4OGL57	S-UI5GFA	S-4K8GN0	S-BVM4EG	S-Q310UL
9290036516	14T5/COR/46-850/DF21/G/DIM UL-C 25/1	S-42SUNK	S-QGL317	S-BFYJIW	S-BDIZKQ	S-1JM6O7

Model (12nc)	Lamp description	T8 1600lm/lamp 2-lamp CI022C045V048CDX1M	T8 1600lm/lamp 3-lamp CI032C065V048CDX1M	T8 1600lm/lamp 4-lamp CI045C093V048CDX1M	T8 2100lm/lamp 2-lamp CI031C064V048CDX1M	T8 2100lm/lamp 3-lamp CI045C093V048CDX1M	T8 2100lm/lamp 3-lamp CI065C135V048CDX1M
9290036515	14T5/COR/46-840/DF21/G/DIM UL-C 25/1	S-LGXK3C	S-3DBL2J	S-ALR5XH	S-9SN5AV	S-S6DKA4	S-BTJ459
9290036516	14T5/COR/46-850/DF21/G/DIM UL-C 25/1	S-XH1EPD	S-0IMWVA	S-XT84ER	S-HUGIO7	S-PJOSID	S-6PGNZ1

PLt-2322BN 09/23 philips.com/lighting

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ADVANCE
by signify

T5HO LED Driver

Centium

ICN-4S24-TLED-90C-2LS-G

ICN-4S24-TLED-90C-2LS-G

Brand Name	**Centium**
Driver Type	**T5HO LED Electronic**
Lamp Connection	**Series**
Input Voltage	**120-27**
Input Frequency	**/ Hz**
Status	**Acti**

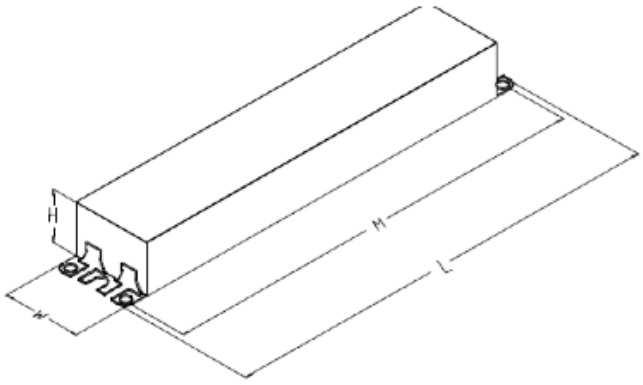
DO NOT USE

Specifications

Description	Product No.	Model No.	Ordering Code	Bare Lamp Watts (W)	Nom. Initial Lumens	Min. Start Temp	Num. of Lamps	Input Current (A)	Input Power (W)	Max	Power Factor
Philips LED InstantFit CorePro T5 High Output	576710	9290031340	24T5HO/COR/46-835/IF33/G/DIM 25/1	24	3300	12/ -25	4	1.000/0.430	116	10	0.99/0.97
	576736	9290031341	24T5HO/COR/46-840/IF35/G/DIM 25/1		3500		3	0.740/0.330	89	10	0.99/0.95
	576744	9290031342	24T5HO/COR/46-850/IF35/G/DIM 25/1		3500		2	0.490/0.220	58	10	0.99/0.94
							1	0.250/0.130	31	15	0.98/0.84
Philips LED InstantFit T5 High Output	467126	9290012837	24T5HO/46-830/IF33/P/DIM 10/1	24	3300	-13/ -25	4	0.890/0.390	106	10	0.99/0.95
	467134	9290012838	24T5HO/46-835/IF33/P/DIM 10/1		3300		3	0.680/0.310	80	15	0.99/0.94
	467142	9290012839	24T5HO/46-840/IF35/P/DIM 10/1		3500		2	0.440/0.200	53	10	0.99/0.92
	467159	9290012840	24T5HO/46-850/IF35/P/DIM 10/1		3500		1	0.230/0.120	28	18	0.97/0.82

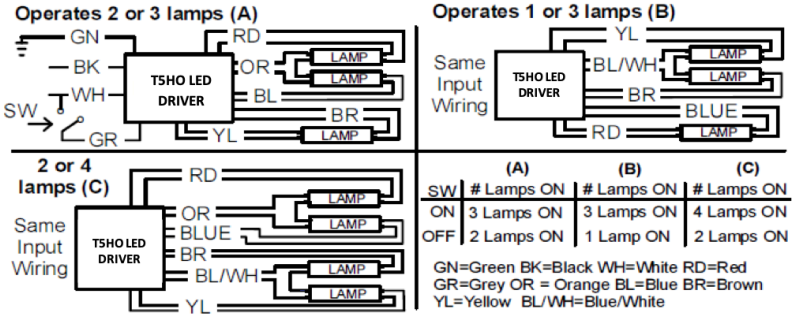
Enclosure

	In. (cm)
Case Width (W)	1.7 (4.3)
Case Height (H)	1.18 (3.0)
Mounting Length (M)	16.34 (41.5)
Overall Length (L1)	16.7 (42.4)



Wiring Diagram

	In. (cm)
Black	25 (63.5)
White	25 (63.5)
Blue	28 (71.1)
Red	28 (71.1)
Yellow	28 (71.1)
Gray	25 (63.5)
Blue/White	33 (83.8)
Brown	28 (71.1)
Orange	33 (83.8)



Centium ICN-4S24-TLED-90C-2LS-G

ICN-4S24-TLED-90C-2LS-G

Brand Name	**Centium**
Driver Type	**T5HO LED Electronic**
Lamp Connection	**Series**
Input Voltage	**V**
Input Frequency	**Hz**
Status	**Active**

DO NOT USE

Electrical Specifications

Section I – Physical Characteristics

1.1 Driver shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.
1.2 Driver shall be provided with integral leads color coded per ANSI C82.11.

Section II – Performance Requirements

2.1 Driver shall energize compatible LED lamps within 1 second after mains power is applied.
2.2 Driver shall contain auto restart circuitry in order to restart LED lamps without resetting mains power.
2.3 Driver shall contain auto restart circuitry in order to restart lamps without resetting power.
2.4 Driver shall operate from a 50Hz or 60 Hz AC input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency).
2.5 Driver shall be high frequency electronic type and operate lamps at frequencies above 42 kHz to avoid interference with infrared devices and eliminate visible flicker.
2.6 Driver shall have a Power Factor of 0.95 or above when operating the maximum rated number of compatible lamps, and 0.82 or above when operating the minimum rated number of compatible lamps.
2.7 Driver input current shall Total Harmonic Distortion (THD) of 10% or less when operating the maximum rated number of compatible lamps and 18% or less when operating the minimum rated number of compatible lamps.
2.8 Driver shall have a Class A sound rating.
2.9 Driver shall have a minimum starting temperature of -13°F / -25°C.
2.10 Driver shall tolerate sustained open circuit and short circuit output conditions.
2.11 Driver shall be capable of operating lamps remotely and in tandem for wire lengths up to 20 ft.
2.12 Driver shall be suitable of operation in up to a 45°C ambient temperature.

Section III – Regulatory Requirements

3.1 Driver shall not contain any Polychlorinated Biphenyl (PCB).
3.2 Driver shall be Underwriters Laboratories (UL) Recognized with Both UL and CSA Standards, and suitable for Damp and Dry conditions.
3.3 Driver shall comply with ANSI C62.41 Category A Transient protection.
3.4 Driver shall comply with the requirements of the Federal Communication Commission (FCC) rules and regulations, Title 47, CFR part 15, Non-Consumer (Class A) for EMI/RFI (conducted and radiated).
3.5 Driver shall comply with NEMA 410 for in-rush current limits.

Section IV – Other

4.1 Driver shall be manufactured in a factory certified to ISO 9001 Quality System Standards.
4.2 Driver shall carry a five year warranty from date of manufacture against defects in material and workmanship when operating at a case temperature of 70°C or less. Driver shall carry a three year warranty from date of manufacture against defects in material and workmanship when operating at a case temperature between 71°C and 90°C.

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200 Franklin Square Drive,
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281 Hillmount Road,
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PHILIPS
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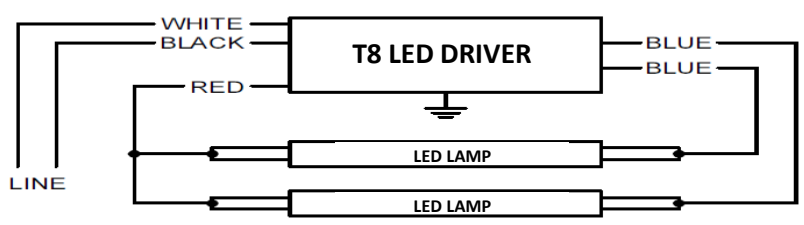
ICN-2P16-TLED-N	
Brand Name	**CENTIUM**
Driver Type	**T8 LED Electronic**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Electrical Specifications

Compatible Lamp Information							Driver Specifications @120V @277V					
T8 LED Lamp Brand	T8 LED Lamp Description	T8 LED Lamp Product No.	T8 LED Lamp Model No.	T8 LED Lamp Ordering Code	Bare Lamp Watts (W)	Nom. Initial Lumens	Min. Start Temp (°F/°C)	Num. of Lamps	Input Current (A)	Input Power (W)	Max THD %	Power Factor
Philips	LED InstantFit T8 - 4'	468694 468264 468272 468280 468298 468272 468280 468298	9290013037 9290011239C 9290011240C 9290011241C 9290011242C 9290011240D 9290011241D 9290011242D	10T8/48-2700 IF 10/1 10T8/48-3000 IF 10/1 10T8/48-3500 IF 10/1 10T8/48-4000 IF 10/1 10T8/48-5000 IF 10/1 10T8/48-3500 IF 10/1 10T8/48-4000 IF 10/1 10T8/48-5000 IF 10/1	10	1400 1500 1500 1600 1600 1500 1600 1600	-13/-25	2 1 	0.18/0.08 0.10/0.05 	22 12 	10 15 	0.99/0.96 0.99/0.88
Philips	LED InstantFit T8 - 4' High Output	473926 473934 473942 473958	9290013976 9290013977 9290013978 9290013979	13T8/48-3000 IF 10/1 13T8/48-3500 IF 10/1 13T8/48-4000 IF 10/1 13T8/48-5000 IF 10/1	13	2000 2000 2100 2100	-13/-25	2 1 	0.23/0.10 0.12/0.06 	28 15 	10 15 	0.99/0.97 0.99/0.91
Philips	LED InstantFit T8 - 4' High Output	468306 468314 468322 468330	9290011585C 9290011586C 9290011587C 9290011588C	14T8/48-3000 IF 10/1 14T8/48-3500 IF 10/1 14T8/48-4000 IF 10/1 14T8/48-5000 IF 10/1	14	2000 2000 2100 2100	-13/-25	2 1 	0.27/0.12 0.14/0.06 	33 16 	10 15 	0.99/0.97 0.99/0.92
Philips	LED InstantFit T8 - 4' High Output Glass	470096 470104 470112 470120	9290013430 9290013431 9290013432 9290013433	14T8 PRO LED/48-3000 IF G 10/1 14T8 PRO LED/48-3500 IF G 10/1 14T8 PRO LED/48-4000 IF G 10/1 14T8 PRO LED/48-5000 IF G 10/1	14	2000 2000 2100 2100	-13/-25	2 1 	0.24/0.11 0.12/0.06 	29 15 	10 15 	0.99/0.97 0.99/0.90
Philips	LED InstantFit T8 - 4' Ultra High Output	468892 463133 463141 463158	9290013044 9290012267 9290012268 9290012269	16.5T8 LED/48-3000 IF 10/1 UHO 16.5T8 LED/48-3500 IF 10/1 UHO 16.5T8 LED/48-4000 IF 10/1 UHO 16.5T8 LED/48-5000 IF 10/1 UHO	16.5	2300 2400 2500 2500	-13/-25	2 1 	0.31/0.13 0.16/0.07 	37 19 	10 15 	0.99/0.97 0.99/0.94
Philips	LED InstantFit T8 - 3'	469320 469338 469346 469353	9290013113 9290013114 9290013115 9290013116	9T8/36-3000 IF 10/1 9T8/36-3500 IF 10/1 9T8/36-4000 IF 10/1 9T8/36-5000 IF 10/1	9	1100 1100 1200 1200	-13/-25	2 1 	0.14/0.06 0.08/0.04 	16 9 	10 15 	0.99/0.92 0.98/0.81
Philips	LED InstantFit T8 - 2'	469270 469288 469296 469304	9290013008 9290013009 9290013110 9290013111	7T8/24-3000 IF 10/1 7T8/24-3500 IF 10/1 7T8/24-4000 IF 10/1 7T8/24-5000 IF 10/1	7	1050 1050 1150 1150	-13/-25	2 1 	0.13/0.06 0.08/0.04 	16 9 	10 15 	0.99/0.92 0.98/0.82

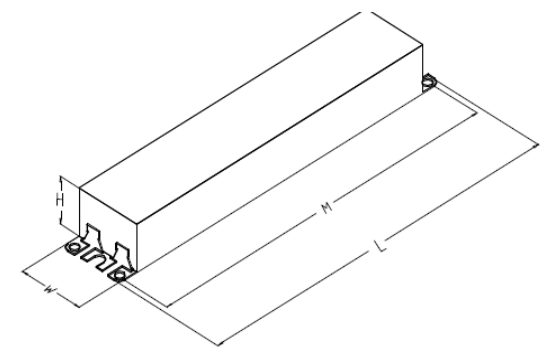
Wiring Diagram



Diag. 64

Standard Lead Length (inches)		
	in.	cm.
Black	24	61.0
White	24	61.0
Blue	28	71.1
Red	43	109.2

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
9.5 "	1.3 "	1.0 "	8.9 "
9 1/2	1 3/10	1	8 9/10
24.1 cm	3.3 cm	2.5 cm	22.6 cm

Revised: 11/03/17

Data is based on tests performed by Philips Lighting NA in a controlled environment and is representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

Philips Lighting N.A.
10275 West Higgins Road • Rosemont, IL 60018 • www.philips.com/advance
Tel: 800-322-2086 • Fax: 800-423-1882 • Customer Support: 800-372-3331 • OEM Support: 866-915-5886

ICN-2P16-TLED-N	
Brand Name	**CENTIUM**
Driver Type	**T8 LED Electronic**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Electrical Specifications

Notes:

Section I - Physical Characteristics
1.1 Driver shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.
1.2 Driver shall be provided with integral leads color coded per ANSI C82.11.

Section II - Performance Requirements
2.1 Driver shall energize compatible LED lamps within 1 second after mains power is applied.
2.2 Driver shall provide Independent Lamp Operation (ILO) allowing remaining lamp(s) to maintain full light output when one or more lamps fail.
2.3 Driver shall contain auto restart circuitry in order to restart lamps without resetting power.
2.4 Driver shall operate from a 50Hz or 60 Hz AC input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency).
2.5 Driver shall be high frequency electronic type and operate lamps at frequencies above 42 kHz to avoid interference with infrared devices and eliminate visible flicker
2.6 Driver shall have a Power Factor of 0.90 or above when operating the maximum rated number of compatible lamps, and 0.88 or above when operating the minimum rated number of compatible lamps.
2.7 Driver input current shall Total Harmonic Distortion (THD) of 10% or less when operating the maximum rated number of compatible lamps and 15% or less when operating the minimum rated number of compatible lamps.
2.8 Driver shall have a Class A sound rating.
2.9 Driver shall have a minimum starting temperature of -13°F / -25°C.
2.10 Driver shall tolerate sustained open circuit and short circuit output conditions.
2.11 Driver shall be capable of operating lamps remotely and in tandem for wire lengths up to 20 ft.
2.12 Driver shall be suitable of operation in up to a 45°C ambient temperature.

Section III - Regulatory Requirements
3.1 Driver shall not contain any Polychlorinated Biphenyl (PCB).
3.2 Driver shall be Underwriters Laboratories (UL) Recognized, and suitable for Damp and Dry conditions; and CSA Certified where applicable.
3.3 Driver shall comply with ANSI C62.41 Category A Transient protection.
3.4 Driver shall comply with the requirements of the Federal Communication Commission (FCC) rules and regulations, Title 47, CFR part 15, Non-Consumer (Class A) for EMI/RFI (conducted and radiated).
3.5 Driver shall comply with NEMA 410 for in-rush current limits.

Section IV - Other
4.1 Driver shall be manufactured in a factory certified to ISO 9001 Quality System Standards.
4.2 Driver shall carry a five year warranty from date of manufacture against defects in material and workmanship when operating in a 45°C ambient

Revised: 11/03/17

Philips Lighting N.A.
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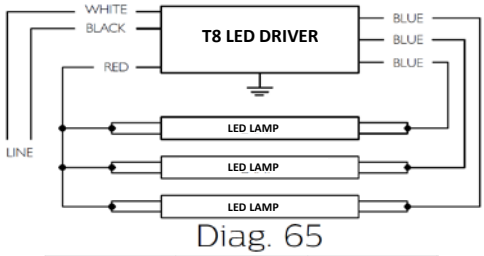
PHILIPS ADVANCE

ICN-3P16-TLED-N	
Brand Name	**CENTIUM**
Driver Type	**T8 LED Electronic**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Electrical Specifications

Compatible Lamp Information - additional lamps shown on page 2 | **Driver Specifications @ 120/277V**

T8 LED Lamp Brand	T8 LED Lamp Description	T8 LED Lamp Product	T8 LED Lamp Model No.	LED Lamp Ordering Code	Nominal Lamp Watts (W)	Nominal Initial Lumens	Min. Start Temp (°F/°C)	Number of Lamps	Input Current (A)	Input Power (W)	THD	Power Factor
Philips	LED InstantFit T8 - 4'	468694 468264 468272 468280 468298 468272 468280 468298	9290013037 9290011239C 9290011240C 9290011241C 9290011242C 9290011240D 9290011241D 9290011242D	10T8/48-2700 IF 10/1 10T8/48-3000 IF 10/1 10T8/48-3500 IF 10/1 10T8/48-4000 IF 10/1 10T8/48-5000 IF 10/1 10T8/48-3500 IF 10/1 10T8/48-4000 IF 10/1 10T8/48-5000 IF 10/1	10	1400 1500 1500 1600 1600 1500 1600 1600	-13/-25	3 2	0.30/0.13 0.23/0.11	35 28	10 10	0.99/0.95 0.99/0.94
Philips	LED InstantFit T8 - 4' High Output	473926 473934 473942 473958	9290013976 9290013977 9290013978 9290013979	13T8/48-3000 IF 10/1 13T8/48-3500 IF 10/1 13T8/48-4000 IF 10/1 13T8/48-5000 IF 10/1	13	2000 2000 2100 2100	-13/-25	3 2	0.37/0.16 0.28/0.13	43 34	10 10	0.99/0.97 0.99/0.95
Philips	LED InstantFit T8 - 4' High Output	468306 468314 468322 468330	9290011585C 9290011586C 9290011587C 9290011588C	14T8/48-3000 IF 10/1 14T8/48-3500 IF 10/1 14T8/48-4000 IF 10/1 14T8/48-5000 IF 10/1	14	2000 2000 2100 2100	-13/-25	3 2	0.42/0.19 0.34/0.15	49 41	10 10	0.99/0.97 0.99/0.96
Philips	LED InstantFit T8 - 4' High Output Glass	470096 470104 470112 470120	9290013430 9290013431 9290013432 9290013433	14T8 PRO LED/48-3000 IF G 10/1 14T8 PRO LED/48-3500 IF G 10/1 14T8 PRO LED/48-4000 IF G 10/1 14T8 PRO LED/48-5000 IF G 10/1	14	2000 2000 2100 2100	-13/-25	3 2	0.39/0.17 0.31/0.14	46 37	10 10	0.99/0.97 0.99/0.96
Philips	LED InstantFit T8 - 4' Ultra High Output	468892 463133 463141 463158	9290013044 9290012267 9290012268 9290012269	16.5T8 LED/48-3000 IF 10/1 UHO 16.5T8 LED/48-3500 IF 10/1 UHO 16.5T8 LED/48-4000 IF 10/1 UHO 16.5T8 LED/48-5000 IF 10/1 UHO	16.5	2300 2400 2500 2500	-13/-25	3 2	0.45/0.20 0.44/0.19	53 52	10 10	0.99/0.98 0.99/0.98
Philips	LED InstantFit T8 - 3'	469320 469338 469346 469353	9290013113 9290013114 9290013115 9290013116	9T8 LED/36-3000 IF 10/1 9T8 LED/36-3500 IF 10/1 9T8 LED/36-4000 IF 10/1 9T8 LED/36-5000 IF 10/1	9	1100 1100 1200 1200	-13/-25	3 2	0.23/0.11 0.18/0.10	28 21	10 15	0.99/0.93 0.99/0.90
Philips	LED InstantFit T8 - 2'	469270 469288 469296 469304	9290013108 9290013109 9290013110 9290013111	7T8 LED/24-3000 IF 10/1 7T8 LED/24-3500 IF 10/1 7T8 LED/24-4000 IF 10/1 7T8 LED/24-5000 IF 10/1	7	1050 1050 1150 1150	-13/-25	3 2	0.22/0.10 0.17/0.09	26 21	10 15	0.99/0.92 0.99/0.89

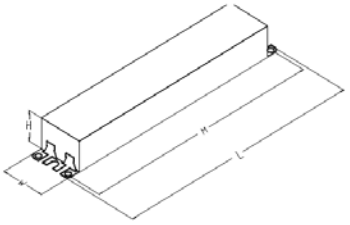


Diag. 65

Standard Lead Length (inches)

	in.	cm.
Black	24	61.0
White	24	61.0
Blue	28	71.1
Red	42	106.7

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
9.5 "	1.3 "	1.0 "	8.9 "
9 1/2	1 3/10	1	8 9/10
24.1 cm	3.3 cm	2.5 cm	22.6 cm

Revised: 01/11/18

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PHILIPS
ADVANCE

ICN-3P16-TLED-N	
Brand Name	**CENTIUM**
Driver Type	**T8 LED Electronic**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Electrical Specification

Notes:

Section I - Physical Characteristics
1.1 Driver shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.
1.2 Driver shall be provided with integral leads color coded per ANSI C82.11.

Section II - Performance Requirements
2.1 Driver shall energize compatible LED lamps within 1 second after mains power is applied.
2.2 Driver shall provide Independent Lamp Operation (ILO) allowing remaining lamp(s) to maintain full light output when one or more lamps fail.
2.3 Driver shall contain auto restart circuitry in order to restart lamps without resetting power.
2.4 Driver shall operate from a 50Hz or 60 Hz AC input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency).
2.5 Driver shall be high frequency electronic type and operate lamps at frequencies above 42 kHz to avoid interference with infrared devices and eliminate visible flicker.
2.6 Driver shall have a Power Factor of 0.90 or above when operating either the maximum or minimum rated number of compatible lamps.
2.7 Driver input current shall Total Harmonic Distortion (THD) of 10% or less when operating the maximum rated number of compatible lamps and 15% or less when operating the minimum rated number of compatible lamps.
2.8 Driver shall have a Class A sound rating.
2.9 Driver shall have a minimum starting temperature of -13°F / -25°C.
2.10 Driver shall tolerate sustained open circuit and short circuit output conditions.
2.11 Driver shall be capable of operating lamps remotely and in tandem for wire lengths up to 20 ft.
2.12 Driver shall be suitable of operation in up to a 45°C ambient temperature.

Section III - Regulatory Requirements
3.1 Driver shall not contain any Polychlorinated Biphenyl (PCB).
3.2 Driver shall be Underwriters Laboratories (UL) Recognized, and suitable for Damp and Dry conditions; and CSA Certified where applicable.
3.3 Driver shall comply with ANSI C62.41 Category A Transient protection.
3.4 Driver shall comply with the requirements of the Federal Communication Commission (FCC) rules and regulations, Title 47, CFR part 15, Non-Consumer (Class A) for EMI/RFI (conducted and radiated).
3.5 Driver shall comply with NEMA 410 for in-rush current limits.

Section IV - Other
4.1 Driver shall be manufactured in a factory certified to ISO 9001 Quality System Standards.
4.2 Driver shall carry a five year warranty from date of manufacture against defects in material and workmanship when operating in a 45°C ambient e

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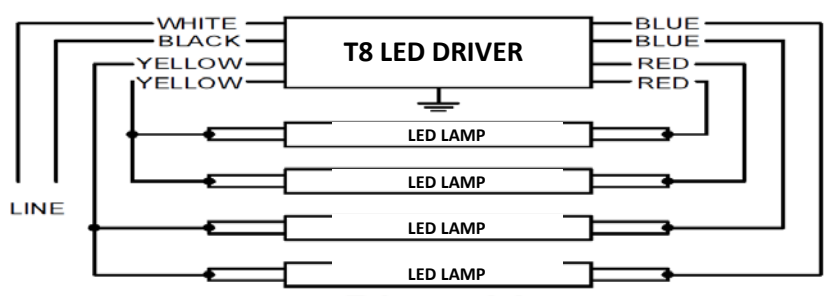
PHILIPS
ADVANCE

ICN-4P16-TLED-N	
Brand Name	**CENTIUM**
Driver Type	**T8 LED Electronic**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Electrical Specifications

Compatible Lamp Information							Driver Specifications @120V/@277V					
T8 LED Lamp Brand	T8 LED Lamp Description	T8 LED Lamp Product No.	T8 LED Lamp Model No.	T8 LED Lamp Ordering Code	Bare Lamp Watts (W)	Nom. Initial Lumens	Min. Start Temp (°F/°C)	Num. of Lamps	Input Current (A)	Input Power (W)	Max THD%	Power Factor
Philips	LED InstantFit T8 - 4'	468264 468272 468280 468298 468272 468280 468298	9290011239C 9290011240C 9290011241C 9290011242C 9290011240D 9290011241D 9290011242D	10T8/48-3000 IF 10/1 10T8/48-3500 IF 10/1 10T8/48-4000 IF 10/1 10T8/48-5000 IF 10/1 10T8/48-3500 IF 10/1 10T8/48-4000 IF 10/1 10T8/48-5000 IF 10/1	10	1500 1500 1600 1600 1500 1600 1600	-13/-25	4 3	0.36/0.16 0.32/0.14	43 37	10 15	0.99/0.96 0.99/0.95
Philips	LED InstantFit T8 - 4' High Output	473926 473934 473942 473958	9290013976 9290013977 9290013978 9290013979	13T8/48-3000 IF 10/1 13T8/48-3500 IF 10/1 13T8/48-4000 IF 10/1 13T8/48-5000 IF 10/1	13	2000 2000 2100 2100	-13/-25	4 3	0.45/0.20 0.38/0.17	54 46	10 15	0.99/0.97 0.99/0.95
Philips	LED InstantFit T8 - 4' High Output	468306 468314 468322 468330	9290011585C 9290011586C 9290011587C 9290011588C	14T8/48-3000 IF 10/1 14T8/48-3500 IF 10/1 14T8/48-4000 IF 10/1 14T8/48-5000 IF 10/1	14	2000 2000 2100 2100	-13/-25	4 3	0.50/0.22 0.44/0.19	60 51	10 15	0.99/0.97 0.99/0.97
Philips	LED InstantFit T8 - 4' High Output Glass	470096 470104 470112 470120	9290013430 9290013431 9290013432 9290013433	14T8 PRO LED/48-3000 IF G 10/1 14T8 PRO LED/48-3500 IF G 10/1 14T8 PRO LED/48-4000 IF G 10/1 14T8 PRO LED/48-5000 IF G 10/1	14	2000 2000 2100 2100	-13/-25	4 3	0.47/0.21 0.40/0.18	56 48	10 15	0.99/0.97 0.99/0.97
Philips	LED InstantFit T8 - 4' Ultra High Output	468892 463133 463141 463158	9290013044 9290012267 9290012268 9290012269	16.5T8 LED/48-3000 IF 10/1 UHO 16.5T8 LED/48-3500 IF 10/1 UHO 16.5T8 LED/48-4000 IF 10/1 UHO 16.5T8 LED/48-5000 IF 10/1 UHO	16.5	2300 2400 2500 2500	-13/-25	4 3	0.61/0.26 0.53/0.23	73 63	10 15	0.99/0.97 0.99/0.97
Philips	LED InstantFit T8 - 3'	469320 469338 469346 469353	9290013113 9290013114 9290013115 9290013116	9T8/36-3000 IF 10/1 9T8/36-3500 IF 10/1 9T8/36-4000 IF 10/1 9T8/36-5000 IF 10/1	9	1100 1100 1200 1200	-13/-25	4 3	0.30/0.14 0.26/0.11	36 30	10 15	0.99/0.95 0.99/0.94
Philips	LED InstantFit T8 - 2'	469270 469288 469296 469304	9290013008 9290013009 9290013110 9290013111	7T8/24-3000 IF 10/1 7T8/24-3500 IF 10/1 7T8/24-4000 IF 10/1 7T8/24-5000 IF 10/1	7	1050 1050 1150 1150	-13/-25	4 3	0.26/0.12 0.23/0.10	32 27	10 15	0.99/0.93 0.99/0.92

Wiring Diagram

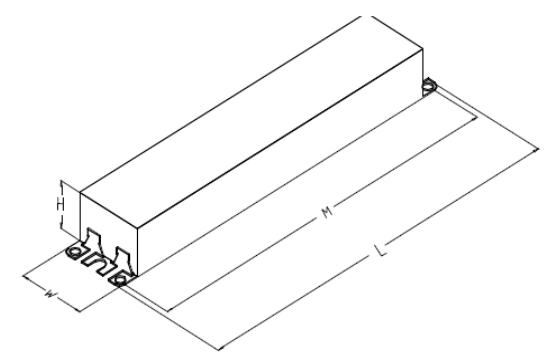


Diag. 66

Standard Lead Length (inches)

	in.	cm.
Black	24	61.0
White	24	61.0
Blue	28	71.1
Red	28	71.1
Yellow	43	109.2

Enclosure



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9 1/2	1 3/10	1	8 9/10
24.1 cm	3.3 cm	2.5 cm	22.6 cm

Revised: 11/03/17

Data is based on tests performed by Philips Lighting NA in a controlled environment and is representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

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ICN-4P16-TLED-N	
Brand Name	**CENTIUM**
Driver Type	**T8 LED Electronic**
Lamp Connection	**Parallel**
Input Voltage	**120-277V**
Input Frequency	**50/60 Hz**
Status	**Active**

Electrical Specifications

Notes:

Section I - Physical Characteristics
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2.6 Driver shall have a Power Factor of 0.90 or above when operating the maximum rated number of compatible lamps, and 0.88 or above when operating the minimum rated number of compatible lamps.
2.7 Driver input current shall Total Harmonic Distortion (THD) of 10% or less when operating the maximum rated number of compatible lamps and 15% or less when operating the minimum rated number of compatible lamps.
2.8 Driver shall have a Class A sound rating.
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Revised: 11/03/17

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EXHIBIT G – July 15, 2025 ComEd Bill

comed℠
AN EXELON COMPANY

Issued **7/15/25** Account # [redacted]

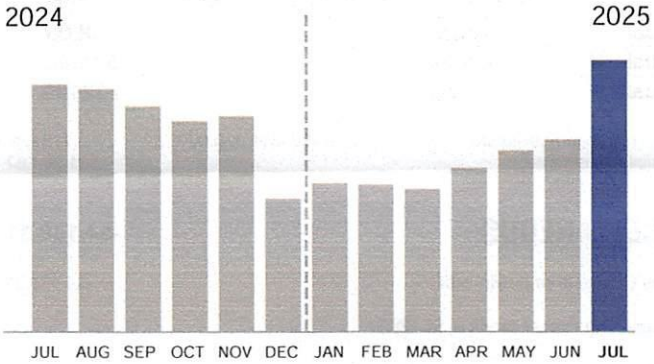
[redacted]

SERVICE FROM 6/12/25 THROUGH 7/14/25 (32 DAYS)

Commercial Hourly - 400 kW to 1000 kW

Mt Prospect Public Library
10 S Emerson St
Mount Prospect, IL 60056
[redacted]

TOTAL USAGE (kWh)



Current month's reading is **Actual**, and is **252,199**.

AVERAGE DAILY USE (monthly usage/days in period)

Current Month	80.3° avg. temp
7881.2 kWh	⬆ **+2 %** from last year

Last Month	64.7° avg. temp	Last Year	78.4° avg. temp
5969.8 kWh		**7689.1** kWh	

Ten 100W light bulbs for 1 hour = 1 kWh

CURRENT CHARGES SUMMARY

See reverse side for details

SUPPLY
$21,053.58

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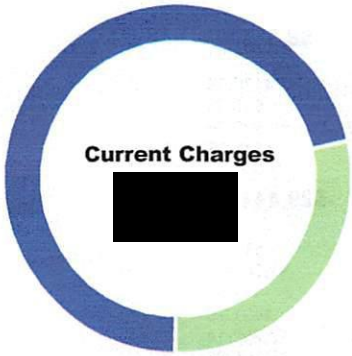

DELIVERY
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